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MEDICAL SOCIETY

OBSERVATIONS

ON AN

EXTRAORDINARY CASE

OF

RUPTURED UTERUS.

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# OBSERVATIONS

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OF

## RUPTURED UTERUS.

**A** RUPTURE of the gravid Uterus is mentioned by writers, as an accident threatening the most imminent danger to the patient; but though dangerous, not necessarily fatal. It has probably been the cause of death, both before and soon after delivery, more frequently than has been known; as the prejudice which prevails against the opening dead bodies, often prevents any particular investigation of the cause of these sudden and melancholy events.

It is somewhat remarkable, that the writers on midwifery, of an early, and of a later date, should agree to admit a principle, to which their practice is in direct opposition. They grant that wounds of the uterus are not certainly mortal ; yet when a foetus has wholly escaped into the cavity of the abdomen through a rupture, they, almost with one consent, abandon the patient to her fate. If indeed the greatest part of the child remains *in utero*, they coldly recommend its extraction by instruments, or by turning ; but offer no expedient to relieve in the first case, excepting what is as barbarous and as hopeless, as leaving the woman to perish undelivered. The Cæsarian section is proposed as the only method which affords a probability of saving either the mother or child ; and has been principally recommended by foreign surgeons, who seem fond of the parade of an operation.

The practice of midwifery about forty years ago, was become much too artificial. Though in this country we have not been



so ready in having recourse to the knife, as the accoucheurs of a neighbouring nation ; yet there prevailed among us at that time, a rage for the invention and improvement of instruments to facilitate delivery. The powers of the constitution were often thought to want assistance and correction ; and artificial means were ever at hand to remedy these supposed defects. It is not to be doubted, but much mischief was done by adopting this mistaken system ; and the sex are highly indebted to the late Dr. Hunter, who stood forth their powerful champion. He, by his skill, experience and character, contributed greatly to restore the art to its genuine simplicity, and taught his pupils to depend with more confidence, on the action of the natural powers. But even this confidence, well-founded as it in general appears to be, is liable to be carried to a faulty extreme ; and the proffibility of doing too much, acting on a disposition naturally cautious, often produces dangerous and fatal delays ; For excessive caution frequently led him to discourage endeavours, which a less timid

conduct might sometimes have rendered successful. The case of a ruptured uterus was one of those, in which he seemed averse to attempt any thing; as if unwilling to give pain, where he despaired of being able to do good: and his great reputation gave particular influence to his opinion. Dr. Denman, with a frankness and candour which does him honour, has communicated to me a case (No. 15) expressive of his own opinion; and I may venture to say, was that which generally prevailed at the time. The recovery of Mrs. Manning gave rise to a new train of ideas on the subject, and induced me to enquire how far this general despondency was justifiable. Whatever may be the effect of this enquiry, I am much pleased to have it in my power to communicate the history of a case, in which there can be no doubt, either of the nature of the accident, or the recovery of the patient.

On September the 12th, 1784 about noon, I was desired by one of the midwives of the Lying-in-Charity, to visit Mrs. Manning of Denzil-street, Clare-Market. She had been seized the night before with flight labour-pains; the membranes had been ruptured eight hours; and the pains had continued regular from that time: yet, though the os tincæ was considerably dilated, the child did not advance. The woman was become extremely restless, complaining of excessive pain in the region of the pubis; her looks were wild, threatening convulsions; and the fears of both midwife and attendants were excited to such a degree by these appearances, as to induce them to beg my advice. The head of the child, though plainly to be felt, was not engaged within the brim of the pelvis. She seemed to suffer agony during the action of the pains; yet these did not force the child strongly against the os tincæ, which was soft and yielding. Each return of pain caused her to wreath



and twist, as if suffering from violent choleric, very unlike the urging throes of common labour: but her pulse was calm and regular; nor did she make any particular complaint, excepting of the pain in the region of the pubis. This being the state of the case, there seemed to be no reason to induce me to precipitate the delivery. I therefore directed the patient to be kept as cool as possible, the weather being extremely hot; ordered the midwife to watch the progress of the labour, without much touching; and to be guided by circumstances in sending for me.

This woman was in stature low; her limbs small, and her complexion pale and fallow: her constitution was naturally weak and delicate, but in general healthy: she was above thirty years of age, and this was her fourth pregnancy: two of her children were living, and her former labours had been very lingering.

About nine o'clock the same evening, the midwife informed me,—‘ That there  
 had



‘ had been a discharge of blood from the  
 ‘ vagina some time after I left her, which  
 ‘ however did not continue; that the pains  
 ‘ had been more severe for an hour or two,  
 ‘ and apparently with some effect; but  
 ‘ had ceased about half an hour after six  
 ‘ o’clock. From that time there had been  
 ‘ no return of labour pains; reaching,  
 ‘ with an incessant craving for drink had  
 ‘ come on; and the poor woman seemed  
 ‘ at sometimes like one frantic, at others  
 ‘ almost lifeless.’

I visited her immediately, and was truly alarmed by her appearance. Her countenance was pale and ghastly; her face was lengthened and bedewed with cold sweat; her pulse was scarcely to be felt; her breathing was short and quick, with great anxiety; but she complained of no particular pain, excepting in the region of the pubis. The nausea and thirst were continual, and the returns of reaching very frequent.

By examination in the common way, I could distinguish nothing, excepting a  
 round

round moveable substance, which I supposed to be the head of the child ; but being only able to reach it with the points of my fingers, I could not determine with any certainty what it was. The woman appeared to be *in extremis* ; and my mind was so wholly occupied by her danger, as to preclude all reasoning with respect to the cause. Immediate delivery seemed to promise the only chance of relief, which though very slender, I resolved to afford her, by turning the child. There was no difficulty in passing my hand ; and the substance which I had supposed to be the child, fled before the tips of my fingers : by following it, I at last found my hand in a cavity, which in no sort resembled that of the uterus. I was then forcibly and painfully struck with the nature of the case ; and on examining all round, with caution and gentleness, I could with certainty determine that my hand was in the cavity of the abdomen : the child lying on the fore part ; on the back part, the contracted uterus like an oblong ball ; and the intestines hanging among my fingers,



gers. It is not easy to imagine how miserable I felt at this moment. No hope of doing good to the woman, from the usual event of such cases ; no possibility of consulting with any of my brethren ; and a necessity of determining instantly, how I was to proceed. I decided in favour of immediate delivery, as my hand was already in contact with the child ; the feet easily to be found ; and no possible advantage to be expected from delay : besides, that the death of the patient might reasonably be expected to happen ; and I was well aware of the dreadful impression which the death of a woman undelivered, would make upon the minds of others. I met with no obstruction to the turning and extraction of the child, excepting in the passage of the head through the brim of the pelvis. While my hand was in search of the feet, I thought I could perceive that the placenta was likewise in the abdominal cavity ; therefore expected it would be easily brought away : but in this I was mistaken ; for it had so clung to the intestines, that I was again under the necessity of introducing my hand to detach

detach it. This was not difficult; and gave me an opportunity of being still better instructed in the nature of the injury. The uterus seemed to have been ruptured transversely, on the lower and fore part, some distance above where the vagina is connected with it: and it was more contracted in its size, than I thought possible in the few hours which had elapsed since the accident. The hæmorrhage was not greater than is usual in a common labour: But the woman complained, that notwithstanding she was delivered, she still felt the same severe and unremitting pain, about the lower part of her belly. With an intention to alleviate this pain, I prescribed an opiate; directing the room to be kept airy and cool, and her drink to be mint tea or gruel. I left her about eleven o'clock, with very little expectation of finding her alive in the morning; signifying to her friends the great danger of her situation; and enforcing the necessity of keeping her perfectly undisturbed and quiet.



Sept. 13. — She was quite sensible, though she had been very restless through the night. The nausea and thirst had been very distressing to her during the first part of it ; but became more tolerable towards morning ; and the reaching after some hours, had neither been so violent or so frequent in its returns. Her complaint was no longer of her belly, but of her breast, pointing to the seat of the heart. The anxiety still affected her considerably ; she had frequent sighings, and her pulse was quick and small, but very regular. I directed the opiate to be given in a saline mixture, with a little cordial confection.

—— 14th.—Curiosity had procured her too many visitors the day before ; and her reaching had returned in the evening to a violent degree, with great heat and restlessness. Towards morning the febrile paroxysm terminating in a profuse sweat, the vomiting had ceased, and she had slept four hours. Her pulse, when I saw her, was calm and regular, the pain and anxiety much abated.

—— 15th.

———15th. Her night had been tolerably quiet: Her pulse made about 100 strokes in a minute, with a considerable degree of firmness; so that Dr. Osborn, who saw her this day, said, ‘ She had ‘ not a dying pulse.’ She had voided her urine freely and regularly from the day of her delivery; but having had no stool, I directed her to take a solution of the cathartic salts.

———16th.—She had two stools the preceding evening, before the salts could be given: She complained of griping; but in other respects was much the same.

———17th.—A diarrhœa had come on in the night, with great flatulency, and violent pain from the pit of the stomach, along the whole intestinal canal: She likewise complained of a pain and soreness extending across from ilium to ilium. The belly felt tumid, and rather hard; her pulse was quick (110) with a degree of fulness: She had some thirst, and a tendency to delirium.

lirium. I had her blooded to eight ounces; and directed she should, every two or three hours, take a solution of the cathartic salt in mint-water, with a few drops of laudanum.

———18th.—The delirium was gone off, and the abdominal pain had abated soon after the bleeding: The blood was not fizy. She had only one stool in the night: Yet her pulse was quicker (120) than it had ever been. Dr. Hunter, who was so kind as to accompany me occasionally in my visits, saw her this day: We thought it unnecessary to repeat the bleeding, but the use of the solution was continued.

———19th.—She had purged only twice in the last twenty-four hours; and did not complain of pain, excepting when she had an inclination to go to stool. She had slept some hours in the night; her tongue was moist, and her pulse 110, with a greater strength and firmness in the strokes than the day before.

———20th.



—— 20th.—Having had a return of the pain and purging in the night, an opiate glister was injected in the morning; after which she had no return of either. Her pulse was about 96.

—— 22nd.—Her nights had been quiet, and her belly natural.

—— 24th.—She continued much the same, but with a tendency to diarrhœa, which caused a considerable degree of pain at the time of each motion: Yet on the whole, she seemed to gain ground; her pulse being regular, firm, and making 90 strokes in a minute; and her tongue moist and clean, without thirst. She had been taken out of bed this day, with less inconvenience than could have been expected.

—— 26th.—She still continued to have flight returns of griping pain of the bowels; but without purging oftener than once in twenty four-hours.



She had had a regular and moderate lochial discharge from the beginning, which was now almost entirely gone: but what was very singular, there had never been the smallest appearance of a secretion of milk.—Dr. Garthshore, who had not been able to visit her before, saw her this day. On his pressing the abdomen externally, she complained of a little remaining foreness; but he could not perceive that there was any particular tumor or hardness.

—— 29th. — The pain and disorder of the bowels seemed now to have entirely left her. Her pulse was firm, regular, and at 72 strokes in a minute: her nights were easy and quiet, and her belly natural. Indeed she was, this day, so perfectly free from complaint, that I could no longer doubt of her recovery.

October 3d.—She was now able to get up every day; and only complained of general weakness, with a pain of the back

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when sitting, and of an inability to stand upright.

—— 14th. She had gained considerably in strength, in the course of the last week; and no longer found any uneasiness in an erect posture.

—— 27th.—She walked from Clare-Market to my house in Bedford-street, Bedford-square; she had then nothing to complain of, excepting a palpitation of the heart, on any attempt to move quickly.

As some of my friends had been desirous of examining the state of the parts after a recovery so unexpected, I wished much to procure them the opportunity; but the shyness and delicacy of the woman defeated my intentions: and when she called on me to return thanks, it was with difficulty I could persuade her to permit my neighbour Dr. Osborn to examine *per vaginam*. He thought the os tinæ somewhat more open externally, than it usually

usually is ; I fancied I felt rather more fulness than is common about the *cervix uteri* : but we both agreed that there was nothing in the touch so different from what is observed in the natural state, as to have excited any idea of previous disease, had not we known the complaint with which she had been afflicted.

This patient took no other nourishment during the first week, than whey, milk, and plain gruel. In the next period of ten days, her diet was only mended by a raw egg beat up with water and a little sugar. In the third week she began to take broth and light pudding ; and afterwards came by degrees to a fuller diet.—She has continued well from that time to the present, January 10th, 1785 ; and about a week since, the menses returned.

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While my attention was engaged by this poor woman, who, every day she lived, became a more interesting object, my curiosity was particularly directed to collect



all the information possible, concerning ruptures of the uterus. In books I found instances sufficient to compose a very long list; but it was almost a list of deaths. In many the cause was unknown, while the patient lived; in others, if the nature of the case was suspected, yet the woman was either allowed to perish without assistance; or an incision through the integuments of the abdomen, was recommended for the extraction of the child. But an event so unusual as recovery, when the uterus had been ruptured, and when the foetus and secundines had been extracted through the rupture by the natural passage, led me to think it was equally criminal, either to give up such a case as hopeless, and do nothing; or to consign the patient to as certain death, by means of a cruel operation.

It is seldom allowable to draw practical inferences from a single instance: but when a disease very rarely occurs, it becomes necessary to lay particular stress on a case, which happens to be exactly in point. The history I have related is of  
this



this sort ; but that I may not neglect to strengthen my opinion by every collateral support I can procure, I shall make abstracts of such cases, from medical writers, or from the information of my friends, as I think will give additional weight to my conclusions ; numbering them, that they may be the more easily referred to.

N° I. A case mentioned by HEISTER as communicated to him by Rungius, a respectable Surgeon of Bremen. Without relating any previous circumstances, he says——‘ That after the extraction of the fœtus, though the intestines were distinctly felt, through a rupture of the uterus, and kept up by the hand of the Surgeon (Rungius), till that was sufficiently contracted to prevent their falling into its cavity, yet the woman happily recovered.’

N° II. PEU, in his *Practique des Accouchmens*, page 341, relates the history of a case, ‘ In which the uterus had been torn and pierced in several places, by violent attempts to deliver ; yet the pa-

tient was cured in six weeks.'—I insert this as an additional proof, that wounds of the uterus do not certainly kill: And I am well informed, that the late Dr. Hunter was consulted in a case exactly similar which had as favourable an event.

N° III. Dr. HAMILTON—*Outlines of Midwifery*, page 344, gives the following account in a note: ' That he was called to a patient who had been in labour from the morning to the afternoon, under the care of a midwife; the shoulder of the child presenting in an oblique direction at the brim of the pelvis. The patient's situation seemed to require her being immediately delivered; which he at first attempted by turning. In his trials for that purpose, he perceived the uterus to be ruptured, and that a shoulder of the child had protruded into the cavity of the abdomen: But having good reason to give up that mode of delivery, he performed it at last with the crotchet. The uterus was ruptured at the superior lateral part of the cervix, and the rent continued



continued downwards to the very edge of the os tincæ: He reduced some portion of the intestine, which had forced through the wound of the uterus, even into the vagina; and had an opportunity of examining how amazingly the rupture was diminished by the contraction of the uterus. There was a discharge of matter on the cloths from the fifth day, which gradually lessened; and her recovery was nearly as good as if no extraordinary accident had happened.'

N° IV. M. LA MOTTE, in *Observation* 312, says, ' That, in a case where the woman's pains had been violent, long, and frequent for eleven or twelve hours, they ceased entirely after a strong effort, six hours before he saw her; from which time she no more perceived any motion in the child. The head of the child was to be felt at the upper part of the vagina, but not at all engaged in the brim of the pelvis. Her belly was hard, stretched, and painful; her pulse very weak; and her stomach would retain nothing that



was given her. He turned and extracted the child by the feet; the placenta was much torn in the middle. She survived the delivering three days, during which time she vomited incessantly.'——

M. La Motte is a sensible and judicious author, and relates his observations with a plainness and candour, which claims our most perfect confidence. He does not particularly mention a hæmorrhage; but, as he says, the placenta was much torn when the uterus gave way, it is probable this accident was attended with a considerable loss of blood. If it was allowable to suppose that inflammation could have taken place in the six hours, during which the child remained among the viscera, it would still more fully explain the hardness, tension, and foreness of the abdomen.—He does not say, that the body was opened after death.

N° V. LA MOTTE, *Observation* 313, was called to assist in a case where the hand, he says, presented; 'The pains which were at  
first

first sharp and frequent, had abated gradually, and when he arrived were entirely gone. Introducing his hand to deliver by turning the child, it passed into the cavity of the abdomen, where he found the feet and part of the body, which had escaped through a rupture of the uterus. The placenta, in this patient's case, was likewise much torn, and she lived four days after delivery; on an inspection of the body after death, the uterus was found much contracted; so that the rupture, which had at first allowed the whole body of the child to pass into the abdomen of the mother, would not then admit more than the tip of the little finger.'—The delivery in this case, seems to have been performed sooner after the accident than in N° V. In the history, he says, there was no previous hæmorrhage: but in his reflections, he adds; 'That after having finished the delivery, he was not surprised at the weak state in which he found the woman; it being easily accounted for, from the laceration of the womb and placenta, *et la perte de sang qui en est inseparable.*'

Since



Since I have been engaged in arranging my observations, another case of ruptured uterus has occurred ; which though not favourable in the event, the gentleman who attended has, in the liberal spirit of philanthropy permitted me to publish ; being convinced, that improvement is alone to be expected from a comparison of various facts ; and that a successful case does not always afford the most useful lesson.

N° VI. ‘ A young woman was taken in labour of her third child on the 11th of December 1784, and the pains having continued for twelve hours the membranes broke, the os tincæ being thoroughly dilated. When the gentleman saw her three hours afterwards, the head was beginning to enter the pelvis, the pains being regular, frequent, and very strong. Her pelvis was narrow ; her former children had been dead born ; but as she had been delivered of one by the natural pains, he was induced to hope a like event. The pains increased in violence for six hours, when they suddenly abated in force, but continued



continued to recur frequently, though short and unavailing. It did not appear that she had made any particular complaint at the time the pains abated, excepting that her spirits flagged much. When he saw her on the 13th, at eleven o'clock in the forenoon, eight hours after the strong pains had left her; her pulse was calm and regular, the pains had ceased almost entirely; she was inclined to sleep, and made no complaint, excepting of a pain in her left side below the ribs. The head was very little lower, but part of the navel-string was within reach and without pulsation. He then determined to open the head of the child; but thought it prudent to encourage, for the present, the disposition to sleep. At eight in the evening, her pulse was so low he could not feel it; she was cold and pale; and the pain of which she complained, was now in her belly. In attempting to open the child's head, it suddenly gave way to the force applied. No part of the child was to be felt; and the woman complained of a sensation as if her life was going from her. He was then

then convinced the uterus was ruptured. He introduced his hand immediately, and found the whole child floating in the cavity of the abdomen. Finding the feet very readily, he delivered with the greatest ease, till the head came to the narrow part of the pelvis, when it resisted his utmost efforts. Knowing the child was dead, he perforated the cranium behind the ear, and extracted with the blunt hook. The placenta was in the cavity of the abdomen, wholly detached from the uterus. The woman was quite sensible; complained of great lowness, and pain in her belly; her pulse small and fluttering, and her breathing short; but she was not restless. The rupture appeared to be near the cervix. She slept a little during the night; but next day complained much of the pain in the belly, and excessive sinking within her. Her breathing became more and more difficult, her lips livid, her belly swelled, and seventeen hours after delivery, she expired. He was not permitted to inspect the body after death.



In this case, there is little doubt but the rupture of the uterus happened, when the force of the pains abated, and the woman's spirits flagged ; which was sixteen or seventeen hours before the child was extracted. The continuance of the pains, though they were short and ineffectual, and the retention of the head within the brim of the pelvis, were very likely to destroy all suspicion of the nature of the accident ; more especially as the patient had a calm regular pulse, and an inclination to sleep, without the usual concomitants of ruptured uterus. When we consider that great part of the body of the child must have been many hours among the viscera, it is not an improbable supposition, that the difficulty of breathing, the pain and swelling of the belly, and death at last, were the consequences of peritoneal inflammation,

N<sup>o</sup> VII. Dr. Garthshore within these few years attended in a case, where he soon discovered that a rupture of the uterus had happened. In consequence of some peculiar symptoms, it was agreed in consultation



sultation with the late Dr. Hunter and others, that delivery should be delayed. On the third day, another gentleman was joined in consultation, who, from the circumstances, did not think the uterus was ruptured ; and the result was, to deliver by turning the child. This was performed by Dr. Garthshore, who extracted it from the cavity of the abdomen through the laceration by the natural passage, and the patient lived twenty-three days afterwards, with a variety of symptoms, sometimes alarming, at others encouraging. In the body, after death, firm adhesions were found to have taken place among the viscera ; and the strongest marks of general inflammation, were every where evident in the cavity of the abdomen, excepting that the uterus itself shewed no signs of disease ; the edges of the rupture appearing to have a disposition to heal without uniting.

I do not think myself at liberty to enter more particularly into the history of this case, as I have reason to believe, that Dr. Garthshore means to publish it at large,  
when

when his leisure will permit, with others in which he has been concerned.

N° VIII. PEU—Book I. chap. viii. page 79, has preserved the history of another case of ruptured uterus, in which the child had passed intirely into the abdominal cavity, excepting one foot, and the umbilical cord. ‘ With a view (he says) to save the child, for of the mother he had no hopes, he slipped the noose of a fillet over the foot, which he then pushed up through the rupture into the cavity of the abdomen; and finding the other foot, he grasped both, and delivered with great caution, to avoid doing farther injury to the uterus. This woman lived to the eighth day, six of which she was perfectly sensible. The hæmorrhage which followed the accident had been excessive.’

N° IX. M. STEIDELE, in his *Observations, De Rupto in Partu Doloribus Utero*, relates, ‘ That he was called to the assistance of a woman who had been ten or twelve hours in labour; and during the whole time had  
6  
complained



complained in a particular manner, of violent pain in the region of the os sacrum. The child, he was informed by persons attending, had presented favourably ; and that the head had even entered a considerable way within the brim of the pelvis. The pain in the region of the os sacrum had continued without intermission ; and the throes had been strong and regular, till after one uncommonly violent, a cracking noise had been heard even by the attendants : From that time the pains had ceased, and a considerable hæmorrhage had ensued. The distance of time between the cessation of the pains, and the attendance of M. Steidele is not mentioned, but the head of the child was then no longer to be felt ; and the woman was become extremely low, with a very feeble, quick, and intermitting pulse. She could not lie down without fear of suffocation ; and had so many other alarming symptoms, as induced M. Steidele to think immediate delivery to be absolutely necessary. He introduced his hand through the os uteri, without perceiving any parts of a child,

till



till it reached the fundus, when he could distinguish the feet and abdomen, but felt nothing of the head. He brought down the feet with ease, but found some difficulty in extracting the rest of the fœtus. The appearances of extreme weakness and danger, did not diminish in consequence of delivery; and the patient complained of a soreness of the right side of the belly, which was intolerably painful to the touch. The following day the hæmorrhage had abated; the pulse was become stronger; and the natural warmth returned; yet many threatening symptoms continued. The uterus was thought to be ruptured. During the days she lived after the extraction of the child, she was afflicted by a variety of most unfavourable symptoms; intense thirst, vomiting, great pain, tumour and tension of the belly, fœtid stools, laborious breathing, watchings, excessive weakness and delirium, with a pulse very feeble and rapid. The time this woman survived the delivery is not very accurately stated, but appears to have been about a week. When the abdomen

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was

was opened, a great quantity of bloody water and foetid air was discharged. The omentum was thickened, the stomach swelled, and the intestines seemed greatly inflated with air, having their external surface tinged, with a yellow colour. An extensive rupture was discovered on the right side of the uterus; and its substance near the ruptured part was gangrenous, and thinner than usual.

The history of this case, as far as was immediately within M. *Steideler's* observation, seems faithfully related; and the symptoms after the abatement of the hæmorrhage, are almost all deducible from inflammation in the cavity of the abdomen.

The livid appearances often observed in the uterus after death, are not certain marks of gangrene having begun. In examining the bodies of women who have died soon after delivery, the cervix and os uteri have often a livid hue; probably in consequence of the pressure which these parts suffer from the child, during the action

tion of the pains. Therefore unless these discoloured parts are soft and spongy as well as black, they are not to be considered as gangrenous.

N° X. Communicated by Dr. GARTHSHORE, contains an account of appearances observed on opening the body of a woman who had died undelivered, after having been two or three days in labour under the care of two midwives. From the previous symptoms, there was reason to suspect, that the uterus had been ruptured early in the labour, but these did not, at first, give any alarm. The body was examined in the presence of several medical gentlemen; and the first view after opening the abdomen, exhibited all the appearance of an extra-uterine conception. But on inspecting the uterus more closely, a rupture was discovered on its fore-part, through which the foetus and secundines had passed into the abdominal cavity. The extent of the rupture was then so diminished by the contraction of the uterus, as to appear much too small for such a purpose. It



was remarkable, that wherever any part of the membranes or placenta had come in contact with the internal surface of the abdomen, they adhered with a considerable degree of firmness; and there were likewise signs of inflammation every where on the coats of the intestines.

N° XI. POUTEAU, page 487, relates, that a woman who had been a considerable time in labour, under the care of a midwife, was seized with a hæmorrhage; on which the child, which had before presented with the head, was no longer felt by the midwife. He was sent for the following day, when he found the woman in little pain, but suffering a degree of uneasiness not to be described, with great anxiety: Her pulse was small and frequent; her eyes sunk; her countenance ghastly, and breathing laborious; symptoms announcing her to be in the greatest danger. Nothing was to be learned by examination, his hand entering at once into a cavity which appeared large; and on the fore-part he

he perceived a round substance of the size, but not the solidity of a child's head; yet there was not any thing to be felt, which could assure him of a child being there. He carried his examination no farther, and the woman died soon after. The body was opened, and the child and placenta found in the cavity of the abdomen, entirely out of the uterus; which was of the size of a child's head of five years old, of a lively red colour, resembling inflammation, and was the round body which had been felt per vaginam. The rupture was on the posterior and inferior part, and then about three or four inches long.

Pouteau attributes the death of the woman to the injury done to the womb; to the mischief which must have been occasioned by the presence of so considerable an extraneous body among the viscera, and to the hæmorrhage.

N<sup>o</sup> XII. SAVIARD—*Observation* xxv. p. 131, gives the case of a woman who had

been received into the Hotel Dieu in labour ; the child presenting favourably, with every appearance that it would be soon finished: yet the pains continued two days without the child advancing, and ceased at once; the presenting parts receded, and only the placenta was to be felt. The woman died undelivered, after having been much examined, yet nothing attempted with a view to relieve her. When the body was opened, the child and fecundines were in the abdomen among the viscera, the feet of the child touching the stomach of the mother. The intestines were all fretted, and the omentum rotten and stinking; but the uterus of the natural appearance.

N° XIII. *Journal de Medicine* for December 1780.—A woman, seven months with child, was in the beginning of January thrown down, and squeezed between a carriage and the wall. She instantly suffered the most dreadful pains in the abdomen; and a flooding came on which continued six weeks. After that ceased, she



she did not get better, but remained in a state of constant suffering; wasting and becoming weaker daily, though she was regular in her periods, reckoning from the cessation of the hæmorrhage. She was received into the Hotel Dieu the June following, having been seized some days before with a vomiting, which never abated while she lived. When the body was opened, a collection of fœtid matter, of a brown colour, was found in the abdomen: the omentum was dissolved, and all the part contiguous to the liver, had undergone inflammation and suppuration, and had contracted adhesions with one another. The remains of a putrid child were found amidst these adhesions. The uterus, as to colour, size, and consistence, was in a natural state; but a rent was observed on its back part, which had never united.

N° XIV. *Journal de Medicine*, 1780.—  
A woman, about four months with child, having suffered some great violence, an uterine hæmorrhage immediately followed. The flooding stopped, and the menses ap-  
C 4
peared

peared a month from that time; and this periodical discharge rendered it matter of doubt, whether she had been pregnant: but the tumor of the belly did not subside. She died five months afterwards; and on opening the body, a foetus was found in the cavity of the abdomen. A rupture was discernible in the uterus, through which it had escaped; which was closed and cicatrized on the internal surface of the womb, but still open on that towards the abdomen.

N<sup>o</sup> XV. In June 1778, about six o'clock in the evening, I was desired to visit Mrs. Bagnall, in Titchfield-street, who had been long in labour, and was supposed to be in great danger. She was attended by the gentleman under whose care she had formerly been, and this was her fifth child. Her present labour commenced on the preceding day, and had gone on regularly, though very slowly, to four o'clock in the morning, when she suddenly complained of a most excruciating pain in her bowels, and immediately vomited a large quantity of coffee-coloured fluid. From that moment



ment the pains of labour ceased, and there being no progress afterwards made, I was at length desired to see her. From the account which was given me before I went into the room where the patient lay, I expressed the strongest apprehension of an unfavourable event of this case, and really suspected the accident which had happened. I found her in a state of the utmost debility, with very much of that appearance observed in the last stage of putrid fevers; except that she was sensible, vehemently lamented her situation, and begged in the most passionate terms to be delivered. The head of the child presented, but was scarcely within reach of a common examination; it was said to have receded since the time when the pains left her. Through the integuments of the abdomen, I could also perceive so very distinctly the several limbs of the child, that I was convinced it had escaped into the cavity of the abdomen, through some ruptured part of the uterus. When I made a second representation to her friends, they were desirous of a consultation, and Dr. Savage was called



in. From the history, and by examination, he was soon convinced of the nature of the case. I had no idea of any woman surviving a rupture of the uterus, under any circumstances; and therefore considered an attempt to extract the child not only as hopeless, but likely to answer no other end, than that of aggravating the sufferings of the patient. But the Doctor being resolute in his opinion, that we ought to attempt the delivery, I was easily convinced by the arguments of my very worthy and ingenious friend to accede to his proposal, and sat down for that purpose. In my endeavours to trace the body of the child, I soon came to the ruptured part, through which, in search of the feet, I passed my hand into the cavity of the abdomen. The sensation given by the touch of the naked viscera, was beyond expression dreadful; but I proceeded, and found no difficulty in the operation, till the body of the child was extracted; but the head sticking at the superior aperture of the pelvis, whilst we were striving to bring it away, the patient expired.

On

On the following day we were permitted to open the body. The abdomen was very much tumified, and inflated near the center, where it had a disposition to burst. On making an incision through the integuments, there was a strong gush of putrid air, and then was discovered a great quantity of bloody serum in the cavity of the abdomen; the contents of which, together with the peritonæum, had that appearance often seen in the highest degree of the puerperal fever. The fundus of the uterus was regularly contracted, and apparently healthy; but this being turned downwards, a large opening was perceived in that part of the cervix which joins the uterus, directly opposite to the projection of the sacrum. The part ruptured, together with the contiguous parts, both of the uterus and vagina, were of their usual degree of thickness, but in a state of gangrene.

Dec. 18, 1784.

THOMAS DENMAN.

IT

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IT appears from a variety of instances, that a rupture may happen in any part of the uterus, and in every direction, but that its inferior portion is most liable to this accident : and that the parts which come most immediately in contact with the bones of the *pubis* and *sacrum*, are those which most frequently give way in the time of labour.

From an attentive consideration of the state of the uterus, with its contents, in the last months of pregnancy, it cannot be thought likely to suffer this injury, while the membranes remain unbroken ; unless in consequence of some great violence, capable of rupturing both *uterus* and membranes at the same instant. In the natural position of the *fœtus in utero*, the limbs are generally disposed in a manner as compact



pact as the figure of such parts will admit ;  
 and while the *liquor amnii* is retained,  
 every inequality is compleatly filled up.  
 But as there are frequent deviations from  
 this commodious disposition of parts, it  
 may often happen that the knee, the elbow,  
 the shoulder, or even the head, will be  
 thrown so far out of the usual oval outline,  
 as to become offensively prominent. If  
 this inequality cannot be reduced into  
 form, by the first efforts of the uterus af-  
 ter the discharge of the *liquor amnii* ; if  
 the efforts be violent and irregular ; the  
 resistance to the descent of the child very  
 great ; and the same portion of the uterus  
 repeatedly and strongly forced against the  
 projecting part, on the return of each  
 pain ; it is easy to suppose, that its fibres  
 may at last give way. Should the obsta-  
 cle to the advancement of the child be at  
 the brim of the pelvis, it will act more  
 powerfully, by keeping the uterus from  
 contracting in its length : and if the  
 thickness of this organ can be diminished  
 by stretching or rubbing, as is commonly  
 believed ; or if the firmness of its texture  
 should

should be weakened by inflammation, ulceration or gangrene, the patient will be rendered still more fatally liable to this accident. Though a narrowness of the pelvis by increasing the resistance to the action of the uterus, will render it more liable to be ruptured; yet such an accident has been known to happen in a pelvis not ill-formed, even when the head of the child had advanced so far as to protrude the perineum. Many writers have considered the foetus as the principal agent in producing a rupture of the uterus, but I believe it must be altogether passive. The weak action of its muscles cannot be able to produce such an effect, where they have so little room for exertion; and I have been informed, that a rupture of the uterus has happened after the child had been dead a considerable time; which was evident from the appearance of the cuticle. The uterus may likewise be torn by attempts to turn the child *in utero*; and by the unskilful use of instruments in cases of laborious parturition.

The signs enumerated by authors, as portending a rupture of the uterus, are too uncertain and equivocal to enable us to found on them any general rule of practice : Yet, I must, at the same time confess, that was another case to occur, resembling in most of its previous circumstances, that which I have just related, I should be tempted to turn the child and extract it by the feet. For I shall ever retain the most lively impression of the nature and appearance of the poor woman's throes ; of the agonizing sensations they seemed to excite in her ; and the little effect they had in propelling the child : These, with a recollection of the alarming accident of the rupture of the uterus which followed, would amount to a degree of internal evidence of what I had to apprehend, which I should not think myself at liberty to reject. But language is too feeble to convey these circumstances to the mind of another, with force sufficient to produce that irresistible conviction which they would not fail of bringing to mine.

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A violent pain fixed in one particular part, might perhaps be stated as a circumstance that should excite our fears of an impending rupture, more strongly than any other. In Mrs. Manning, the pain in the region of the pubis, was by much the most distressing of her complaints. Though in observing her attentively during the action of a pain, she appeared from the contortions of her body to suffer the severest pangs in the whole region of the pelvis ; yet in answer to particular questions, she expressed herself, as if the intolerable agony was confined to a very small spot near the arch of the pubis. M. *Steidele*'s patient, N° IX. suffered in a peculiar manner, during the whole time of labour, from a violent and unremitting pain in the region of the os sacrum.

When a rupture of the uterus has really happened, it is generally marked by symptoms which are decisive ; but it being a case which occurs so very rarely, they do not immediately create suspicions. When labour has continued violent a considerable

ble time ; if a pain expressive of peculiar agony is followed by a discharge of blood, and an immediate cessation of the throes, there is reason to apprehend this mischief. If nausea and langour succeed, with a feeble and irregular pulse, cold sweat, reaching, a difficulty of breathing, an inability to lie in an horizontal posture, fainting or convulsions, there is still more reason to suspect the nature of the case : But if the presenting part of the child, which was before plainly to be distinguished, has receded and can be no longer felt ; and its form and members can be traced through the *parietes* of the abdomen, there is evidence sufficient, I believe, to determine that the uterus is ruptured. The labour pain in consequence of which, the rupture is supposed to have happened, is often described by the patient as being similar to cramp ; and as if something was tearing and giving way within them. It has been said likewise, to have produced a noise which could be heard by the people present.

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When



When the head of the foetus is wedged among the bones of the pelvis, or an arm entangled in the vagina or os externum, the case is deprived of its two most distinguishing signs : The presenting part will be prevented from receding ; and less of the child being allowed to escape by the rupture, it will not be so distinctly felt through the integuments. Such a case really occurred within these few years ; in which, from the head not receding, the nature of the patient's situation was not known, till the body was examined after her death ; when the head was found so firmly wedged within the brim of the pelvis, that it required considerable force to pull it out. A friend of mine has lately met with another instance of that uncertainty, which must necessarily be the consequence of a child's remaining fixed in its position, after a rupture has taken place. In his patient N° VI. there was no symptom which could give the alarm, till the appearance of those arising from debility. The strong efforts of labour generally cease from the time a rupture takes place ; yet  
alter-



alternating, though ineffectual pains, will in some cases, continue for a considerable time ; and an uneasy and painful sensation often remains in one spot, after the child and placenta are extracted.

When it is certain that the uterus is ruptured, every one must be sensible, that the woman is in a state of the extremest danger ; whether we consider the importance of the viscus itself, the excessive hæmorrhage that often ensues, or the violence to which the abdominal viscera are exposed, from the pressure of a substance so bulky and so heavy as the body of a child, at the full time. Indeed, her situation is so very hazardous, that if the means to be undertaken for her relief are not speedily applied, she will soon be beyond the reach of human assistance.

The horrible expedient of making an incision through the parietes of the abdomen, for the extraction of the child, affords very little prospect of recovery to the mother. For if a rupture of the

uterus is of itself an injury so generally fatal, what is the patient likely to gain by combining the dangers of such an accident, with those of a penetrating wound which will expose the abdominal viscera? The operation is said to have been performed with success in a few instances: But the histories which I have read, are told in terms so general, as not to be very satisfactory. In a case related in the *Journal de Medecine*, on making an incision through the integuments, the intestines were found inflamed and suppurating; and the wound afterwards became an artificial anus. Neither does this operation promise to be very instrumental in saving the infant: Since the placenta is often separated by the action of the uterus; and (as in the case of Mrs. MANNING, in N<sup>o</sup> VI. X. XI. and XII.) forced with the foetus into the cavity of the abdomen. The powers of life in the child will soon be extinguished in consequence of this separation, and therefore any hope to preserve it, ought to have very little weight in directing the measures to be pursued; of which

which the mother should be the only object while she is alive. The practice is quite exploded in this country ; nor do I believe it is ever thought of, excepting with the hope of saving the life of a child, when the mother is certainly dead.

It is not, however, sufficient, that an attempt is made to check unfeeling boldness, if there is not likewise an endeavour to avert the consequences of a too cautious and timid mode of practice. There is a passive as well as an active inhumanity ; which though less shocking in appearance, is not less dangerous in its effects. A rupture of the gravid uterus is confessedly a case, which the experience of the past and of the present time has rendered almost hopeless. Yet it might be worth enquiring, whether the instances of recovery would have been so very rare, had we not so generally given way to an almost criminal despondency. The case I have related, is decisive as to the possibility of recovery ; and the other histories which I have cited, though not so conclusive as I could wish,



contain each of them, some circumstance, which ought to encourage us to try in future, what immediate delivery may be able to effect; since it does not appear, that any thing has hitherto been gained by a contrary conduct.

The objections to immediate delivery in cases; where all, or greatest part of a child, has escaped through a rupture of the uterus into the cavity of the abdomen, must principally arise from the following circumstances :

First, From the extreme danger of the original complaint, as affording no hope of recovery.

Secondly, From the increased difficulty of delivery, in consequence of the contraction of the uterus,

Thirdly, From the fear, that the mischief already done to the parts, must be so aggravated by the introduction of the hand and the extraction of the foetus, as

to render the death of the patient inevitable.

Under the most favourable circumstances which can attend a rupture of the uterus, it must still be acknowledged a case of the greatest danger. But the case of Mrs. MANNING, and those of N° I. II. III. prove, ‘ That it is an accident of itself not certainly mortal ;’ and of course obviate the first objection ; N° VII. likewise affords some encouragement to hope, as the patient survived the rupture six and twenty days, and seems at last to have sunk under another disease.

Many facts can be adduced to weaken the force of the second objection. N° I. IV. V. VIII. evince the ease with which delivery may be performed ; and in N° VI. IX. XV. and in Mrs. MANNING’s case, the obstacle to speedy delivery did not proceed from the uterus, but from the narrowness of the pelvis. N° VII. proves, that, even on the third day after the rupture, the contraction of the uterus did

not materially obstruct the extraction of the child, though that of the os tincæ somewhat retarded it. It is remarkable, that in N° V. the child was turned and extracted with so much ease, that LA MOTTE himself expresses it, *en moins d'un Miserere* ; yet on examination of the body after death, the uterus was found so contracted, that he could then introduce only the tip of his little finger into the rupture. This great contractile power of the uterus, when emptied of its contents, must be favourable to the process of healing in wounds or rupture, by diminishing their extent, and bringing the divided parts more into contact. But the presence of any considerable extraneous substance, even in the abdomen, seems, in some degree, to counteract this power of contraction.

In addition to the second objection it has been urged, that it is inhuman to increase the misery of the patient by endeavours which are painful, yet do not promise to be successful ; but which will tend  
to



to shorten the little time she might otherwise survive the accident. That the extraction of the child in such cases, is not complained of by the patient as a very painful operation, I know from that which I have related: and there are instances, from which it appears, that the patients themselves have expressed both surprise and comfort, in being delivered with so little additional pain. Admitting that the efforts used to extract the child might possibly hasten the patient's death; yet sure, if that affords the most remote chance of recovery, it cannot be a matter of the smallest consideration, in case she should die, whether she lived twelve or twenty-four hours.

Since ruptures of the uterus are neither immediately nor certainly mortal; since the supposed contraction of the uterus, is no obstacle to the extraction of the foetus, nor the cause of greater suffering to the patient, the third objection is already answered, and the fair conclusion will be,  
that

that the means used to deliver, cannot increase the danger of the woman's situation.

Besides the objections which have been made to delivery, on the score of pain and danger to the woman, it has been suggested, that the constitution, if not farther disturbed, might be able to accommodate itself to this unusual situation of the foetus ; or by some extraordinary exertion of its powers, after a great change produced in the soft parts of the child, direct those which remained and could not be altered, where they might be expelled from the body of the mother with less danger to her life, than would have attended the extraction of the whole foetus, soon after the original accident.

Slender must be the hope, I believe, that the constitution can ever be reconciled to such a guest. There are indeed a few stories told, of children remaining many years within the mother's body, without causing much inconvenience ;  
 where

where they are said sometimes to have petrified. But, without either admitting or rejecting the petrefactions, I cannot think two or three extraordinary instances are sufficient to warrant an expectation, which may tempt a timid or a visionary man, to let slip an opportunity of assisting his patient, with a more reasonable expectation of success. Neither can the histories which give an account of the bones of a foetus being discharged by the anus, or from abscesses formed about the navel or neighbouring parts, be properly urged in support of the opinion of those, who discourage the immediate extraction of the child in cases of a rupture of the uterus. These have most probably been extra-uterine conceptions, which from their very minute beginning and gradual increase, are long before they excite any disturbance in the constitution. Possessing the principles of life, they immediately adhere and derive their nourishment from the mother; and being enveloped in their own membranes, and presenting a smooth surface to the contiguous parts, they produce



duce no irritation till they offend by their bulk. The first effect of this is probably a slight degree of the adhesive inflammation, by which the ovum becoming still more firmly connected with some of the adjoining viscera, its increasing weight will consequently be supported with less inconvenience to the woman. Some circumstances capable of extinguishing life in the foetus occurring at last, it is reduced to the state of a mere extraneous mass within the woman's body, and thence more offensive to the constitution than before; the powers of which will be excited to get rid of a substance now no longer a part of it. Ulceration is the method which nature uses to effect this purpose, and (the soft parts being first absorbed) the bones are guided by that process to the nearest external surface; to the skin, or to the intestinal canal, which is external with respect to the cavity of the abdomen. The adhesions which have been previously formed with the peritoneal lining of the abdomen, or covering of the intestines, will determine the pointing

ing of the abscess, from which the bones of the foetus are at last to be expelled, if the powers of life do not sink before that can be performed.

Having endeavoured to shew how little relief is to be expected from any power which we can suppose the constitution to have over a foetus, in such circumstances as I have described, I shall next attempt to point out the pernicious effects which its remaining in the abdomen must inevitably produce.

The increased susceptibility of irritation which prevails in a state of pregnancy, the pressure which the abdominal viscera sustain from the increasing uterus and resisting integuments, and the action of the uterus and muscles of the abdomen in the severe pangs of labour, will all dispose the peritoneum to be more readily affected by any new irritating cause. It is easy, therefore, to imagine, how much parts very susceptible of irritation must be liable to suffer, from the presence

fence of an extraneous mass so considerable as a child near the full time: and as that is not only out of place, but unconfined, it must follow the motion of the woman's body, and by its mere weight, rub and bruise the tender substance of the viscera among which it lies.

The fever, which sometimes seizes lying-in women, affords a strong proof of the particular disposition of the peritoneal coat to inflame at that time. Originating from some cause too inconsiderable or too subtle to be readily detected, it is yet so active as frequently to destroy the patient in a very short time. The dissection of the bodies of those who have died of this disease, shows how violently the abdominal viscera are affected, particularly the intestines, mesentery, and omentum. Every degree of mischief, from the slightest adhesive inflammation, to a complete gangrene, being sometimes evident in the same body. Besides other appearances of inflammation on the intestines, they are found adhering in different places,  
as



as if glewed together, and their surface sometimes covered with a thick matter. The omentum is often almost wasted, what remains having become black and putrid. In the cavity of the abdomen a considerable quantity of serous fluid is generally found; sometimes mixed with pus, and having pieces of a thicker matter like curds swimming in it. This fluid varies in quantity and colour, and is commonly putrid. Whether these diseased appearances in the abdomen are cause or effect, producing the fever, or produced by it, they equally prove the strong disposition which the parts have to inflame in a puerperal state: and make it more easy to conceive the dangerous consequences which must arise from the body of a child remaining among the bowels, then so peculiarly susceptible of every species of irritation. In fact, the symptoms and appearances in a woman who has survived a rupture of the uterus some days, very much resemble those arising from puerperal fever.

The

The only symptoms which required medical treatment in the case of Mrs. MANNING, were those which indicated a slight degree of peritoneal inflammation; though the foetus could not have remained among the viscera much more than three hours. In the case N° X. there were evident signs of inflammation, POUTEAU in N° XI. describes the uterus as being of a lively red colour resembling inflammation. SAVIARD expressly says, N° XII. that the intestines were fretted (*tous rongez*) and the omentum rotten and stinking. In case N° IX. of M. STEIDELE, many of the symptoms which threatened the most immediate danger abated during the first and second days after delivery; from which time to the patient's death, almost all the symptoms were similar to those which attend the puerperal fever. And the appearances on the body being opened, were the same as are often observed in women who die of that disease. N° VII. exhibits striking marks of the same kind of mischief having taken place; and the resemblance was so strong in N° XV. that

Dr.



Dr. DENMAN has made the same comparison. In this last mentioned case, though the rupture does not seem to have taken place above fifteen or sixteen hours before death, yet the signs of peritoneal inflammation apparent on opening the body, were of the most striking sort. The symptoms in N° VI. which came on before the patient died, appear to have been effects of the same species of inflammation: And the abdominal hardness, tension and soreness, which LA MOTTE describes in N° IV. even before delivery, lead one to suppose that its progress is often very rapid. Although the woman N° XIII. lived five months after the accident by which the uterus appears to have been ruptured, yet she lost strength, and her health declined daily from that time; and on inspecting the body after death, the foetid matter found in the abdomen, the wasted omentum, the adhering viscera, with the marks of inflammation and suppuration which were evident on these parts, all indicated that the peritoneal coat had been principally affected. The uterus was in a

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natural



natural state as to colour, size, and firmness of texture, but the edges of the rupture had not united. The powers of the constitution, in this woman's case, seemed to have made great efforts to counteract the impending mischief, by forming adhesions between the parts in the region of the liver, to prevent the foetus from rolling about. But the irritating cause continuing to act, nature at last sunk under the disease; by which the uterus appeared to have been less affected, than any other of the neighbouring viscera. The gradual decline of this patient's health, bears a great resemblance to the effects of that hectic fever, which, in two or three instances, I have seen follow the peritoneal inflammation.

The recovery of the patients N° I. and II. may have been, in a great measure, owing to the viscera having sustained little or no injury; as there is no reason to suppose, that the child in either case, had been in the cavity of the abdomen. Dr. HAMILTON, N° III. says, ' that a shoulder only, of  
the

the child protruded into the abdomen ;' in which situation it could not give much disturbance to the viscera. It will not be improper to observe in this place, that a portion of the intestine sometimes falls into the rupture, as in N° I. and III. which it will be necessary to reduce with great care ; and as the interposition of a very small part would prevent the lips uniting, and produce irritation and inflammation, it may be adviseable to pursue the method practised by RUNGIVS of *keeping his hand in the uterus*, till that is sufficiently contracted to prevent its happening again.

Abstracted from the particular injury which the abdominal viscera themselves are liable to sustain, the wound of the uterus can have little disposition to unite, while the body of a child is acting on all the surrounding parts as a constant and powerful stimulus. N° XIII. and XIV. may be considered as proofs of the effects of such a cause : since in N° XIII. the healing process had never begun, and in N° XIV. it had not been compleated in the whole five



months which these women survived the accident. Whenever the subject required that I should reason from opinions respecting inflammation and the actions connected with it, I have availed myself of those adopted by Mr. HUNTER, as being best calculated to solve all their various phænomena.

It is remarkable, that in the two last cases, the functions of the uterus seem not to have been altogether interrupted by the accident which had happened. In N° XIII. the menses returned after some time, and continued to flow regularly; without being affected, either by the state of the wound, or by the mischief brought on the other viscera; and the same regularity had taken place in N° XIV. In the last case the uterine portion of the rupture had united, while the peritoneal remained unhealed.

The most favourable situation for the efforts of nature to produce adhesions and carry on a process for relieving the constitution of such a load, is undoubtedly  
when



when the rupture of the uterus has been the effect of accident ; the powers of the constitution being unimpaired and equal to the greatest exertions. Yet in N° XIII. and XIV. under such favourable circumstances, with this farther advantage, that the woman in one case was in the seventh month, in the other only in the fourth, and of course the children small : Nature was unequal to the task, and after many efforts sunk under the attempt in a few months. Hence we may conclude, how little hope remains of a favourable event, when the foetus has attained its full growth, and the constitutional powers of the mother are weakened and deranged by a tedious and severe labour.

When rupture is the effect of some external violence, it may happen at a period of gestation, when the os uteri is not disposed to relax, and delivery by the natural passage will consequently be rendered extremely difficult or impracticable : but an attempt to dilate, for the purpose of extracting the child, should always be

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made,

made, excepting in the very early months of pregnancy.

In enumerating the signs of a rupture of the uterus, I have mentioned as the most decisive, the retrocession of the parts of the child which had presented, and the ease with which the form of its limbs can be traced through the integuments. If previous to the accident the head has been so wedged among the bones, or any other part so entangled in the passage that it cannot recede, we shall be under the necessity of judging from symptoms, which do not so clearly point out the nature of the mischief. These may sometimes be so mild at first, as to give no immediate alarm; but in general, they will be sufficiently marked to determine the dangerous situation of the patient; and to point out the propriety of assisting her, by judicious attempts to deliver. Symptoms of great debility coming on after a sudden cessation of strong pains, ought always to be considered as indications of particular danger.

Should



Should it be allowed, that I have made a proper selection of cases to illustrate my opinion on this subject, and that I have reasoned justly from the facts which they contain, I think the following conclusions may be admitted :

First, That in a rupture of the gravid uterus, which has even allowed a foetus to pass into the cavity of the abdomen, the case is not to be considered as absolutely hopeless.

Secondly, That the danger of such a case, is as much in consequence of the injury which the viscera sustain from the child remaining in the cavity of the abdomen, as from that which is done to the uterus itself.

Thirdly, That the danger will generally be in proportion to the time the child is suffered to remain among the viscera, and to the susceptibility of irritation which prevails in the constitution of the patient at the time.

Fourthly,



Fourthly, That delivery affords the only prospect of recovery to the patient, and should therefore be effected as soon as the circumstances will permit.

Although these inferences may be fairly deducible from what has been said, yet circumstances will frequently arise, in a case of such complicated danger, which will baffle all reasoning from general principles: For when rupture is the consequence of some violent disease having affected the substance of the uterus itself, no advantage is to be expected from any measure that can be tried. When the accident is attended with excessive hæmorrhage, death too generally happens, before it is possible, with any certainty, to determine the nature of the complaint: and even if the hæmorrhage should not be so violent as to destroy the patient very suddenly, it may yet be so considerable, as by greatly diminishing the powers of life, to make her recovery impossible.

Other

Other causes existing in the constitution, may contribute to render this accident peculiarly fatal. The body being at this time in a state very susceptible of stimulus, whatever acts violently on the nervous system, may have power to produce effects suddenly destructive of life.

It is a matter of some comfort, that amidst such accumulated danger, there still remains a possibility of the patient's recovery: and as that seems in a great measure to depend on the speedy removal of the child from among the viscera, it is a point of the highest importance, to be able early and certainly to determine, that the accident has really happened. I have endeavoured to bring into one view all the circumstances I could collect, which were likely to assist in directing our judgment on this occasion. These do not, however, establish that absolute certainty, which I wish could be attained in a matter of so much consequence. The gloomy idea of inevitable death, which has been hitherto annexed to this accident, by de-

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stroying hope, has checked the ardour which should have directed endeavours that might have sometimes been successful: and has consequently deprived us of the aid of experience, and the advantages resulting from a comparison of facts and observations.—Let us discard these melancholy apprehensions, and cherish the hope of a more favourable event; and we need not despair of making additions to the list of recoveries. One in half a century, will be sufficient to justify the practice of immediate delivery; which, if it fails of preserving life, yet takes place of no other mode which promises the smallest chance of safety to the patient.

*F I N I S.*



CASES AND OBSERVATIONS

ON THE

HYDROPHOBIA:

BY

J. VAUGHAN, M. D.

---

*Sæpe vero etiam nova incidere genera Morborum, in quibus  
nihil adhuc usus ostenderit.* Celsus Præfat.

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TO WHICH IS ANNEXED,

AN ACCOUNT OF THE  
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T H E  
P R E F A C E.

**I** MAKE no apology for presuming to offer to the Public the following Cases of the *Hydrophobia*; a disease rapid in its progress, and of the most fatal tendency.

The Reader who expects to find in the following pages a never-failing *Nostrum* recommended, or even a successful method of treating that disorder, will be disappointed. The Author's intention is, to give a succinct account of the *Hydrophobia*, with its concomitant Symptoms, in the order they occurred; and to report the appearances after death, of the parts more immediately

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ately concerned in the living subject. This he is enabled, in the present edition, to do with more precision, from the occurrence of a Third Case, since the publication of the two former. He trusts the little reliance which can be had, upon the most celebrated medicines yet known, will appear in a stronger light, from his having, in the last Case, employed a greater variety of them. But, he is sorry to add, with no more advantage than in either of the former ones.

The prevalence of Empirical Agency in the Hydrophobia, but more especially in the Prophylactick part, is a disgrace to Science, and, it is to be hoped, will speedily be supplanted, by the diligent enquiry of Physicians into this curious disease; for, to speak the truth, but little is to be found in the immense quantity of medical volumes now extant,

extant, on which much dependance can be had.

To have given the Public some examples of the *Hydrophobia* yielding to Medicine, would have been a much more pleasing task to the Author, than that of recording the inutility of it, in a disorder to which mankind is hourly exposed, from the increased number of domestic animals: But the Reader who will be contented with nothing less than a prosperous termination of disease, will do right in sparing himself the trouble of perusing the subsequent pages, and in returning to those examples which have been given as instances of the *Hydrophobia* being cured, and of which we have quite enough at present.

I profess to relate with candour what I saw, (and in so doing to remove much error with which the  
subject



subject is obscured) and to shew the Public, at least, what will *not cure* this dreadful disorder. It is possible the *Pathologist* may thank me for my trouble, and that the *Physician* will not be quite so well satisfied with the cures he has read of before the present publication.--- Under these sentiments, and with great deference, I submit it to the world.

Annexed to the present Edition will be found, *Reflections on the Operation of Cutting the Symphysis of the Ossa Pubis*, by Dr HUNTER. To the character which that Gentleman has so justly acquired, I cannot propose to add, by any thing I can say of it; but let me, as the Member of a Large Community, which has received the greatest advantages from his labours, here express my warm acknowledgments, whilst I may congratulate not only the



the present age, but posterity, upon that plentiful source of information his *magnificent Museum* must afford; in which will be found, every thing that can instruct the man of Science, or gratify curiosity.

Sept. 15th, }  
1778. }

J. VAUGHAN.

O F

## E R R A T A.

P. 26. line 3d, for *ouncas* read *ounces*.

P. 31. line 15th, for *sumanter* read *sumantur*.

Ditto, last line, for *Ammonicum* read *Ammoniacum*.

P. 42. in the note, for *latee* read *later*.

P. 90. line 13th, for *differient* read *different*.

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# O F T H E H Y D R O P H O B I A.

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## C A S E the First.

*Paucae enim dissectiones in tanto numero sunt, quas historia præcedat satis accurata, non ætatis solum et constitutionis illius hominis, sed & modi & temporis, tum quo virus, & unde contractum fuerit, tum quo perstiterit & quam symptomatum omnium, & quo die ingruentium, majore minorive assiduitate & sævitia, tum deinde omnium, quoad fieri potest, quæ in universis et singulis cadaveris ejusdem hominis partibus, præter naturam reperta sunt.*

*Morgagni de causis & sedibus morborum per anatomen indagatis. lib. 1<sup>mo</sup> Epist 8<sup>vo</sup> Art. 32.*

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**T**HOMAS NOURSE, a strong lusty lad of the age of 14, was admitted an in-patient of the Leicester-Infirmery on Tuesday the 16th of November 1773, having that day-month been bit by a mad fox-hound. The wound was a large lacerated one on the left cheek, and bled very freely upon the bite being

A 2 inflicted.



## 4 CASE THE FIRST.

inflicted.---The day after he was bit he went to the sea, where he was dipped with all the severity usually practised under so disagreeable an operation. A celebrated remedy was also administered, known by the title of the *Ormskirk-Medicine* of whose *infallibility* we have heard much\*.

---A common adhesive plaister was applied to the part, after sea-bathing; and in the course of a month, without any further trouble, the wound was healed; excepting a small portion somewhat more than an inch in length, and in breadth about one tenth. This yielded no discharge, and was quite in a cicatrizing state.

On the Sunday preceding his application for admission into the Infirmary, he began to complain of a tightness over his temples, and a pain in his head. His appetite likewise failed him for the first time since the accident, 'and altho' he slept tolerably well the preceding night, he did not feel himself refreshed as usual by it. On Monday the tightness was increased, as also the head-ach; his dislike to food was greater; and

\* This medicine was bought of the person in Leicester, who is deputed by the proprietor to vend it for him.

and he now became apprehensive that he could not swallow. He passed this night not only without sleep, but was restless and uneasy; he was likewise very much annoyed by a *boiling heat* in his stomach, which was continually ascending to the fauces.

On Tuesday morning he was bled, after which he swallowed under great disgust and perplexity, another dose of the Oimskirk Medicine. The morning was cold, and he complained every now and then of the air suffocating him\*; he was therefore very intent upon mitigating its coldness, e're it was applied to the fauces, by holding a handkerchief constantly to his mouth; but a much greater inconvenience arose at the sight of a puddle of water, which frequently occurred in the streets, through which he passed in going to the Infirmary, and which never failed to produce a dreadful agony.

The boy was perfectly sensible. His pulse soft, but unequal; and without that firmness I should have expected to have found in health; his respiration was free  
and

\* *Insueta Aeris Querela.*

*Cælius Aurelianus de Hydrophobia. Cap. 2.*



and equal. There was no præternatural heat upon his skin ; nor did he complain of thirst. The singular appearance of his eyes was very striking, and is, I believe, peculiar to people labouring under the Hydrophobia. There was a fierceness displayed, with a mixture of timidity, that I despair of impressing the reader properly with ; and which at this distance of time, I cannot recollect, without feeling some uneasiness. The colour of the eye was also changed ; for the iris had assumed an orange hue, and the pupil was very much dilated. The blood drawn, was firm in its texture, of a florid colour, and with a due proportion of serum, so that it could not be distinguished from blood taken from a person in the most perfect health.

Upon my asking him whether he felt pain any where ? or whether he had any propensity to bite ? or if he found his head confused, or his spirits hurried ? he replied negatively, in a very plaintive tone.

I now placed before him unawares, a basin of water, from which he instantly turned away with the utmost horror ; striking violently at the same time the  
*scrobiculus*



*scrobiculus cordis*, and making a hideous moaning, whilst the *risus sardonius* seized the muscles of the jaws and face.

In this situation he was ordered to go to bed; having first swallowed a scruple of *Musk*, with two grains of *Extr. Thebaic.* made into a soft bolus.

It was curious to observe, what pains he took to swallow the medicine, and what perseverance he shewed in getting it into the œsophagus. He fixed his eyes steadfastly upon it for some little time, and having applied it to his mouth, he crammed it as far back into the fauces as he could reach, which seemed to be the superior part of the gullet; after which deglutition was performed with little or no difficulty; but he rejoiced much when he had accomplished his purpose.---This lack of difficulty in swallowing, when the substance was conveyed into the œsophagus, I desired some of the faculty who were present to remark; as it contradicted an opinion universally received, respecting the disorder.

Upon endeavouring to lie on his back in bed, he immediately felt the same sensation as when cold air blew upon him:

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upon which he started up, endeavouring to recover an erect posture as soon as possible, with the body bent a little forward; ---and under this position his uneasy feelings speedily vanished.

The propriety of avoiding every thing that might renew these painful symptoms, was obvious.-The attendants therefore had it strictly in charge, to be particularly diligent in administering to his wants; and to give him every assistance that might contribute to alleviate his sufferings; to which the construction of his bed was no mean auxiliary; as will appear from consulting Mr. WHITE's treatise on the puerperal fever, where a drawing of it is to be met with.

The disease was in itself novel to me; was so important, and in its progress so rapid, as not to admit of my being satisfied with trusting him to the action of *Musk* and *Opium* entirely.--How much had been said of the efficacy of *Mercury* did not escape my memory. Nor did the so much famed *Tonquin Medicine*, fail to represent itself to my recollection on this occasion. A composition then of fifteen grains of  
*Musk,*



*Musk*, one of *Turbith Mineral*, and five \* grains of the *Theban Extract*, made into a soft bolus, was directed to be taken once in three hours ; an ounce of the stronger *Mercurial Ointment*, was to be rubbed on the cervical vertebræ, and shoulders ; and the following embrocation was directed to be applied to the throat, renewing it as often as the part grew dry.

R. *Tinct. Thebaic. uncias duas*  
*Acet. Saturnin. semunciam. m.*

On touching the external fauces with this embrocation, he was immediately thrown into convulsions. A repetition was therefore prohibited ; and altho' a cloth wet with it, was afterwards ordered to be used, (the boy's eyes being first covered with a napkin) yet the same effect was produced. The following plaister was therefore substituted

\* This quantity of opium, considering the frequency of the repetition, will no doubt appear large ; but I was too conversant with the advantages resulting from such doses, repeated in spasmodick diseases, and saw but too manifestly the hasty advances of so terrible a malady, to demur in ordering the above quantity ; which the reader will presently see, was not only quite a safe dose, but failed to produce those lasting sedative effects, which might reasonably have been expected from it.



stituted in its place; and this he bore without complaint.

R. *Extr. Thebaic. semunciam.*

*Camphor. Spt. Vin. in pulv. redact.  
drachmas tres.*

*Confect. Damocr. drachmas sex M. f. em-  
plastrum faucibus externis applicandum. \**

Having now occasion to use the chamber-pot, he suddenly got out of bed and made about a quarter of a pint of lemon coloured urine with ease. This he could look at, in a black earthen vessel, without any emotion; but upon its being shewn to him in a glass, his convulsions were instantly excited.

About two o'clock, he repeated his medicine again with less hesitation, and with much less difficulty than the former. He could now view the meadows at some distance, which were covered with water, without

\* If the reader is disappointed at not finding the warm Bath amongst the above remedies, I can tell him, this was not forgot; on the contrary, it was kept constantly in readiness; but the sight or touch of all fluids encreased or renewed his symptoms to so great a degree, that on this motive it was refrained from: and under some expectation of gaining by other means, such an alleviation of his symptoms, as might allow of his going into the Bath without that dreadful perturbation, which I was anxious to prevent.

without those miserable feelings he had hitherto been tormented with. He was more comfortable to himself, and with tolerable ease got down some half dozen mouthfuls of bread and butter. After this he made a new attempt to swallow water; first looking at it, and without those painful agitations recurring with so much violence as before. Having thrown a portion of this hastily into his mouth, he squeezed his lips together with his fingers; and by a determined effort gained his point. But this cost him so much trouble and pain, as to prevent his engaging in a second attempt at that time.

The boiling heat in his stomach, which had occasioned so much uneasiness in the morning, he now scarcely felt. This he said, had sensibly declined since the application of the ointment, to which he ascribed a mitigation of all his sufferings.

At this period of his disorder it was discovered, that his urine had been forcibly expelled, as often as his spasms returned; and that the penis was always then in a state of erection. \*

B

difficulty

\* Veretri frequens tensio cum feminis involuntario jactu.

Gal.



A further repetition of his medicine was made at five o'clock, and this with as little difficulty as the last. Matters therefore wearing a less terrible aspect, I could not help flattering myself with hopes, that this dreadful disorder would at length be conquered by the combined powers of Musk, Opium, and Mercury. My expectation was but of short continuance ; for within two hours he became more restless and fearful, frequently calling out for something to drink, and talking much and loud ; however he became calm, upon being reproved mildly. Small-beer was his favourite liquor : he was therefore indulged with some pieces of bread soaked in this fluid ; but these he could not swallow with the same facility as before. Beer was his constant theme. Being desirous therefore of gratifying him in this regard, as well as of trying whether a concealment of the liquor would not obviate many of the difficulties which had always accompanied his attempt to drink ; some small-beer was put into a phial covered with flannel ;

*Cæli. Aurel. de Hydrophob. Cap. XI.* — This was a symptom, and a very troublesome one, in Dr. Fothergill's patient.



flannel; \* and a tube was prepared, thro' which he was to suck it. The effect was the same as when given to him without disguise. The moment it touched the fauces, that instant were his spasms renewed with all the violence he had ever experienced.

At eight o'clock in the evening, his medicine was again repeated; but with more reluctance and trouble than upon either of the two former occasions. At nine o'clock, all his symptoms were manifestly encreased. His countenance was fiercer: he was constantly spitting out large flakes of frothy saliva: he became more ungovernable; frequently getting out of bed; was incessantly calling for drink; yet shewed no disposition to bite, or assault any body. A new symptom had also now made its appearance, which in other diseases is found to be of the most dangerous import: I mean a perpetual plucking of the blankets and bed-cloaths.

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\* Dandus interia potus in fictili vasculo, subtili caverno perforato, tanquam sunt papillæ uberum; et dandus ægro-  
tantibus, præfecto obstaculo oculorum. *Cælius Aurelian*:  
*de Hydrophob*: Cap; 16.

An increase of difficulty attended the exhibition of five grains of opium, without Musk or the Turbith Mineral. Another ounce of the Mercurial Ointment was rubbed upon the shoulders, \* and half an ounce of Tinct. Theb. mixed with six ounces of mutton broth, was injected into the intestines; but neither these means separately, nor in conjunction, were sufficient to check the further progress of his disease.

At eleven o'clock the general perturbation was become excessive. He began to ramble : but this was stopped for a time, by talking to him, and by engaging his attention. He had frequently regurgitations from the stomach; but no vomiting. The saliva became more viscid, and adhering tenaciously to the fauces, occasioned (but in a slighter degree) the same symptoms that an attempt to swallow any liquid excited.

\* I was willing to hope, that by thus hastily introducing a large quantity of Mercury into the system, a ptyalism would be procured; and that a change in the state of the fauces so induced, would destroy that morbid sensibility of these parts to which so much of his disease might be attributed; whilst from its general action upon the frame, some salutary effects would be obtained. I was in both respects disappointed.



excited. He had also all his complaints aggravated, by the improper conduct of his attendants ; who prompted by their fears, had almost persuaded themselves, that the opinion universally received by the common people, of smothering such unfortunate objects, was not only justifiable but expedient : \* for I found them confining the poor creature under the bed-clothes ; by the united force of half a dozen strong assistants ; whose countenances bespoke the terrible apprehension they were under. He was instantly set at liberty, when it was discovered that his arm had bled again : his face was flushed : he panted quick, and was in a profuse sweat.

Being sensible of the ill treatment he had received, he became suspicious of his attendants,

\* Tulpius, who was aware of this opinion prevailing in Holland, has the following passage in speaking of a patient, under the Hydrophobia. *Adeo ut opus non fuerit, nec huic nec aliis ægris (quos equidem vidi satis frequentes) mortem maturare, sive per Stragulam sive per Culcitram ori (uti loquitur vulgus) impositam, quippe pereunt per se satis celeriter : ut pote raro superstes, cum aquæ formidine in diem vel tertiam, vel quartam ; quibus addo, quod neminem hætenus, vel audiverim latrare, vel viderim mordere, necdum cuiquam detrimento fuisse rabidorum sputa. Tulpii Observ : Lib : 1mo. Cap : XX.*



tendants, and less attentive to my instructions. Stern reprehension of those who had thus behaved, and mild persuasion employed with him ; soon produced tranquility and compliance with my directions. I had however scarce left the room before a loud scream bespoke some unexpected change. Upon turning my head to discover what this meant, the boy was at my shoulder ; having suddenly quitted his bed with an intention to follow me. To this he immediately returned at my request, without having shewn the least inclination to bite, or betraying any thing further than an ill opinion of those by whom he had been so improperly treated.

Seeing of how little avail all my endeavours had hitherto proved, I was determined to try if a larger dose of *Opium* would not throw him into an opposite state, and make him exchange his inquietude for stupor : for unless some stop was put to the increase of his disease, evident it was, death must inevitably soon follow. A larger quantity of *Extr. Thebaic.* was accordingly given to him with some difficulty : but without succeeding in the intention.

From

From this time until a little before two o'clock in the morning (his strength being much impaired) his inquietude was somewhat abated. He often started, but was less disposed to talk.

He complained of a very offensive smell from the wound, which had not undergone any change since the commencement of the Hydrophobia : nor was any-body but himself sensible of foetor issuing from it.

About two o'clock his eyes had lost their fierce frightening appearance, and were more fixed. He had some intervals of rest ; but soon after, his hands and feet were cold, and his pulse intermitted and became irregular. A violent convulsion succeeded ; and this was followed by a copious discharge of frothy saliva from the fauces ; which occasioned a sudden strangulation, and was near closing the scene ; but by the industry of his attendants, this was removed : and altho' he was insensible to any ordinary occurrence, yet by his behaviour he seemed to acknowledge their assistance in this regard with thankfulness. When to appearance he had ceased to breathe, the *Spasmus Cynicus* was observable,



ble, with an odd convulsive motion in the muscles of the face ; and the strange contrariety which took place in the action of these, produced the most horrid assemblage of features that can well be conceived.

It was remarkable, that in the last hours of his life, he ceased to call for drink, which had been his constant request ; but was perpetually asking for something to eat. In this manner he died, giving me an opportunity of examining those parts after death, which were in such sufferance whilst he was living.

Upon laying bare the abdominal muscles, these preserved the same colour they have in the healthiest subject ; not being altered in the least degree either by the disease, or from the repeated blows he had given himself. The skin indeed was black at the *Scrobiculus Cordis*, and there was a slight raise upon the part, which had so repeatedly and forcibly been struck ; but this extended no further than the *Cutis*.--- All the viscera of the abdomen were in a perfect sound state, neither discoloured, nor preternaturally distended with blood.

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The stomach was free from every inflammatory appearance ; and contained about half a pint of a semi-fluid, consisting in part of the food he had taken, (little or none of which had passed the lower orifice of the stomach) and in part of the medicine he had been using, as the smell very fully evinced.

The liver was entirely free from disease : its substance was neither distended with blood, nor the *Vesica Fellea* with bile : the latter was about half full, and contained also a portion of air.-----The intestines, both small and great, were empty ; and the rectum without fæces. The contents of the *Thorax* yielded no more information, than those of the lower belly, being quite untainted with disease.

Having met with so little instruction from my enquiry hitherto, I was willing to expect that an examination of those parts, which were so much affected under the disorder, in the life-time of the patient, would now afford some light in my endeavours to investigate this curious disease. The *Diaphragm* was therefore first exposed : but this had not undergone the least change

nor deviation; from what is observed in the most healthy subject. The *Oesophagus* was next examined after being divided its whole length; but no vestige of inflammation was here to be met with; nor upon the *Velum Pendulum Palati*, nor did the whole circumference of the *internal fauces*, nor the superior part of the *larynx* and *pharynx*, nor the *glottis*, betray an appearance that could in any degree be considered, as bearing a morbid aspect.

Here my enquiry stopped, as I could not suppose an inspection of the brain was likely to give any more information than I had hitherto acquired.

## C A S E the Second.

**I**N the year 1775, a second Case of the Hydrophobia occurred to me, the particulars of which the reader will find in the following narrative.

A young Farmer, aged 25 years, of a thin habit, and used to the most laborious kind of employment in husbandry, was bit in the month of September by a mad-dog ; a slight wound was made by the animal in the fore-finger of the left-hand, about mid-day on Wednesday. On the Tuesday following, the moon being at the full, he went to the sea, and was dipped as much, and for as long a time, as is usually practised at those places : drinking afterwards upon the spot, sea-water as a purge ; which operated briskly. The wound at first bled freely, and was made to do so more than once by his occupation in the field ; which at that season of the year, was gathering beans. It healed whilst at the salt-water, and never afterwards gave him the least trouble.

On



On Tuesday the sixth of June following in the afternoon, he for the first time felt a pain in that hand and arm, which he attributed to some slight injury the limb had sustained in the course of his employment; supposing that this had brought on the rheumatism, a disorder to which he had been heretofore subject. On this motive he was induced to bathe in a river the same evening; which he did without hesitation or inconvenience. On the Wednesday morning, after passing a sleepless night, he complained of being sick, but went to his ordinary engagement in the field; first eating some bread and butter, and drinking tea without reluctance or experiencing any uneasiness. In the course of the day he several times drank draughts of different liquids to allay his thirst, which was troublesome. In the evening, he was seized with a vomiting, which continued the whole night, and until eleven o'clock on Thursday; every thing coming up as soon as taken. His vomiting ceased about that time, but was succeeded not only by an aversion to liquids, but even the sight of them affected him much. In this state I found him, and from his eyes alone, before

fore I had asked any questions, was entirely satisfied of the presence of the Hydrophobia. He complained much of a heat ascending from the stomach to the fauces: the latter were also loaded with a viscid frothy phlegm, which he was perpetually spitting \* out in large white flakes; and with a strong effort. He every now and then started suddenly from the chair in which he sat, (for he could not bear a horizontal position) complaining at the same time of being almost suffocated; and of his feeling an exquisite pain under the *Cartilago Ensiformis*, to which (in the same manner as the boy did) he instantly with force applied his hand, as often as his spasms returned. He was extremely desirous of cold air, which never failed to renew all his painful symptoms; as did a wet napkin applied to the throat. I now asked him to wash his mouth, with cold water, in order to

\* I was sorry afterwards I did not inoculate a dog with this saliva. It would not only have been satisfactory to have returned the poison from the human frame to the dog; but a failure in this point might have led to a useful fact, viz. that those who are engaged in offices about the person of one labouring under the Hydrophobia, have nothing to fear from the saliva; a contrary apprehension is universally entertained, notwithstanding the information which *Tulpius* has given on this head, and which the reader will find in a former citation.



to remove the viscid phlegm which was so troublesome to him, as well as to observe what effect it would have. To this with some reluctance he consented : but the moment a glass of water was placed before him, his spasms were immediately excited with great violence ; whilst the *Rifus Sardonius* occupied the muscles of the face. A further attempt was made with his eyes shut, but the same horrid symptoms were produced. Solids had not quite the same effect : He could chew bread ; but seemed very attentive in keeping it from touching the back part of the fauces ; and whenever he attempted to swallow it, the same symptoms were brought on that ensued from his seeing water ; (but in a less degree,) until he had got the substance into the Oesophagus, when it was transmitted to the stomach without difficulty. Humanity forbade a further repetition of these trials. His countenance bespoke the greatest distress ; his eyes expressed a mixture of fear and fierceness, which I mentioned before as being peculiar to the *Hydrophobia*. The pupil was as much dilated as in the most compleat *Amaurosis* ; but the colour of the iris was not changed, as was observable



vable in the boy whose case I have before related. The skin was cool; the pulse slow and feeble: he was frequently troubled with eructations; but these afforded him no relief. He had no difficulty in making water, which he had passed at intervals, in small quantities. His respiration was free and equal, excepting when those interruptions occurred from cold air, the sight of any liquid, or from the *fauces* being touched with the latter. His intellects were clear; and he felt no pain he said, but that under the *Cartilago Ensisformis*; which never failed to aggravate in a most acute degree, all his other sufferings.

He was conscious to himself of the hasty increase of all his symptoms, was aware of the danger of his situation, and seemed much disappointed at my not bringing with me, a medicine that might prevent a return of his pain; declaring he could not live unless I could give him very speedy relief.

He made no objection to going into the *Warm Bath*, which was prepared for him immediately; nor to a *purgative Clyster*, which was to be injected upon his coming out

out of the water. A stool having been procured by these means, a second was to be thrown up ; consisting of four ounces of oil, with half an ounce of *Tinct. Thebaic.* Four drams of *Ung. Cærul. fort.* were to be rubbed upon the fauces, and the part to be covered afterwards with the *Cataplasma e Cymino* ; to which was added, half an ounce of the *Theban extract.*

An embrocation was directed to be applied to the region of the stomach, with continued friction ; consisting of the following articles,--half an ounce of *Spt. Sal. Ammon.* ten drams of *Olive Oil*, six drams of *Oil of Amber*, and ten drams of *Laudanum* : strong *Mercurial Ointment*, to the amount of two ounces, was also to be rubbed by the hand of an assistant, guarded with a bladder; upon the shoulders and back ; and as a further means of kindling a *Ptyalism* speedily, he was to receive the *smoak* of *Cinnabar* into the mouth, by throwing a drachm of that substance now and then upon a hot iron.

In aid to these external means the following bolus was directed to be prepared, and to be taken every four hours :

R. *Mosch. Opt. gr. quindecim*  
*Merc. Emet. flav. gr. tria*  
*Extr. Thebaic. gr. quatuor*  
*Syr. Simp. q. s. ut. ft. bolus mollis.*

It was with concern I could observe a manifest increase of his disorder whilst I sat with him, and this to so great a degree as to preclude any expectation of his surviving many hours.

He felt himself easier whilst in the *warm Bath* as also under the application of the *Ointment*; but was released by death from his state of misery, about ten o'clock that night: nor in this case did the *wound* undergo the least *change* either before or after the appearance of the *Hydrophobia*; but healed without any difficulty and remained so at the time of his death.



## C A S E the Third.

**I**N the afternoon of the 29th of August in the present year 1778, I was desired to see a boy eight years old, who was said to labour under the *Hydrophobia*. I found him surrounded by a number of people, whose curiosity had led them to become spectators of so extraordinary a disease. He was sitting in a chair with his countenance composed; his eyes, which were naturally of a black colour, fixed; but without that fierce appearance I have before remarked, as being peculiar to the *Hydrophobus*. The account which he and his friends gave me was as follows: That about a month since he had been bit on the wrist by a *Cat*, in a field adjoining to the town, of which the marks remained, but without any ulcer, or even the smallest appearance of inflammation: that about the middle of the day before I saw him he began to complain of pain in the part bitten, which ascended up the arm and affected the temple on that side;

side; soon after which he swallowed liquids with reluctance and difficulty. Upon producing a cup of water he turned from it immediately under great perturbation, with a painful sobbing, similar to that which follows a gradual immersion of the body in cold water. Upon my attempting to apply a wet cloth to his throat, he resisted with all his strength, and by his excessive agitation seemed to have his painful feelings much aggravated. When undisturbed by any of the above offending causes, his respiration was free and equal, excepting that he sighed very often. His pulse was feeble, irregular, and intermitting: there was no preternatural heat upon his skin: he had no thirst: his intellects were clear; and he gave to all my questions immediate pertinent answers, in a plaintive tone of voice, which seemed to bespeak a consciousness of his situation, and which did not fail to impress every one present in the fullest manner with pity for his sufferings. Indeed in every case that I have seen, the patient conveyed his information clearly and earnestly; and whatever he wanted to obtain; whether to have some disagreeable object removed, or some request granted,



it was implored in the most piteous manner. This was particularly observable in the poor child who is the subject of this narrative, during the whole course of the disorder.

A warm Bath was immediately prepared for him, the sight of which occasioned some commotion, and produced marks of disgust and fear : these were overcome by persuasion, and he was placed in it. The moment he touched the water his painful sobbing and disgust to it were increased : these subsided in a few seconds, and he then told me he felt easier ; but it was observable that these symptoms were renewed as often as a fresh surface was touched by the water. He was kept in the Bath near three quarters of an hour, during which time he frequently said that he felt less annoyance from his disorder. Upon quitting it a plaister (of which Sacc. Saturni made the basis) was applied to the throat, and I had now to lament, that neither from the former cases which had been treated by me, nor from that republished by Dr. *Fothergill*, was any thing to be collected, which might carry even a probability with it of subduing a disease most terrible in its  
first



first appearance, in its progress, and in its termination. Not however to follow the same line (powerful as it was) which I had before pursued, the *Metalline Antispasmodics*, of late introduced into the *Materia Medica*, were the medicines I purposed to adopt in the present instance ; but not with much hope, I confess, of subduing this terrible disease. A composition of the following kind was formed :

R. *Flor. Zinci granum unum.*

*Cupr. Ammoniac. semigranum.*

*Mosch. Opt. grana decem.*

*Syr. Simp. q. s. ut fiant pillulæ duæ molles; sumanter hora tertia vel quarta quaque.*

A Liniment, consisting of 3 drams of the stronger Mercurial Ointment, with the same quantity of Oil of Amber, was to be rubbed upon the shoulders and back ; and a Clyster, made of five ounces of fresh broth, with thirty drops of Laudanum, was to be injected soon after his going to bed, which he did immediately upon his quitting the Bath. To these remedies was added a Medical Atmosphere, made by burning Gum Ammonicum, in his room,  
from

from which in some spasmodick diseases I had seen a good effect.

Between nine and ten o'clock this night he took some bits of bread soaked in milk, but with difficulty : he sighed more, and and often started up in bed.

At eleven o'clock his pills were repeated; the sight of which at first disturbed him, as did every thing that came suddenly upon him ; but having crammed them as far back in the fauces as he could reach, they were swallowed with little or no difficulty.

About twelve o'clock he became more restless; his face was flushed ; he frequently started ; complained he could not lie down, and that the weight of the bed-cloaths was too much for him. He likewise in the course of the last hour became more talkative, and I could manifestly see an approaching delirium. The warm Bath was immediately provided, after which a Broth Clyster with a dram of Tinct. Thebaic, was to be injected, and the Mercurial Liniment \* was ordered to be repeated.

\* The Mercurial Liniment in this case did not shew the same sedative quality during the time of rubbing, as was observed in a former case.

repeated. He continued in the warm bath near two hours, feeling himself much more comfortable the whole time ; but the same inconvenience accrued as before whenever a fresh surface was touched by the water. Between two and three o'clock in the morning his restlessness was still greater ; his eyes had acquired a fierce appearance ; he often sighed deeply ; was continually talking,--and every symptom seemed to be upon the increase.

Both his Clysters had come away directly, the latter bringing with it some hardened fæces. He now complained of being cold, and wanted to sit by the fire ; but at the same time could not bear the bed-cloaths upon him : in this state his intellectual faculties seemed quickened by disease. Each dose of his pills were directed to contain two grains of *Cupr. Ammon.* the same quantity of Theban Extract, three grains of *Flor. Zinci*, with ten grains of *Asa Foetida*, which was substituted for the Musk ; whilst a solution of that foetid Gum, with a dram of Tinct. Thebaic, was administered as a Clyster. The above pills, tho' repeated every four hours,



hours, afforded not the smallest relief; nor did they shew the least action upon the frame.

At eight o'clock in the morning he expressed a strong desire of going into the warm Bath again. This was complied with, a temperate one of *Milk \* and Water* being speedily prepared. The sight of it affected him somewhat, but he entered it without hesitation; and altho' the heat (as I have before observed) was temperate, yet he complained much of its being too hot; frequently starting from it into an erect posture. In a quarter of an hour he was weary of it, and desired to be taken out.

He had from the commencement of the Hydrophobia, as had the other patients whose cases I have related, constantly pointed to the *Scrobiculus Cordis*, as the principal

The alteration of the Bath to Milk and Water, was made in conformity to Dr. Fothergill's proposal, of supporting by food the *Vis Vitæ*; the quantity absorbed by the whole surface of the body in a given time, being very considerable; *Hydrophobi* however do not sink for want of food, but the effect of the Canine Poison upon the *Brain and Nervous System* is so forcible, that nothing at present known seems sufficient to counteract it. All those I have seen, have taken food quite sufficient to support the system for a much longer time than the disease requires to finish its course.

principal seat of his misery, and which in this poor child extended from thence down the Recti Muscles. As there was some little fullness in the bowels, a purgative clyster was thought proper to remove this, which answered the purpose, in procuring a moderate stool with some flatus.

Seeing of how little avail every thing had hitherto proved, and being clearly convinced of his inevitable fate, I was at length determined to put in force the remedy which Helmont speaks of in terms so favourable, but let me add, not with much expectation that this would prove more successful than those powerful ones which hitherto, in every case, had been so fruitlessly employed. A large tub of cold water, well saturated with common salt, was made ready, into which this patient was suddenly plunged over head and ears, and there held until he ceased to struggle. He was then taken out, and the same operation again repeated, until he became so quiet, that I was apprehensive a total extinction of life would actually take place. He was then wrapt in a blanket and put to bed, where he remain-



ed more quiet than he had been any part of the preceeding night, and so continued for near two hours ; not that he could at any part of this time bear the sight of liquids, or allow them to approach his mouth with less horror than he had done since the attack of his disease. He now repeated his medicine ; but his excessive inquietude, which was again returned, his increasing delirium, his intermitting, feeble, irregular pulse, all these symptoms in combination, afforded a most melancholy prospect, and gave me but little hopes of his surviving many hours ; nor indeed was it a circumstance I could wish for. His eyes, and whole countenance, had now a keener aspect ; but it was observable there was no increase of difficulty in swallowing, as was evident from his taking five or six bits of bread soaked in milk.

At four o'clock in the afternoon \* he was become more ungovernable, refusing at first to take his medicine ; but neither  
at

\* In this state I took from him, on the blade of a lancet, some saliva, with which I immediately inoculated a dog, by making a small incision through the skin on the upper part of the nose.



at this period of his disease, nor at any other, did he shew the least inclination to bite or spit, or to hurt in any manner his attendants. He talked incoherently and constantly, walking about incessantly; and this he had done for the last three hours. His pulse became immeasurably quick, and all his symptoms were visibly heightened.

At eight o'clock he swallowed some pills made of Camphire and Nitre, with two grains of Opium.

About nine o'clock a common saucerful of bread soaked in milk was brought to him, which he eat, and without more difficulty than he had all along experienced. His pulse was scarcely discernable, and tho' he complained much of heat, his skin was cold and clammy. At one o'clock his eyes seemed enlarged, and had a livid circle about them: The upper lip was covered with a frothy mucus: He would lie quiet for a few minutes, and then plunge suddenly with his feet: His breathing became irregular and laborious: He faltered in his speech; and before two o'clock the horrid catastrophe was concluded\*.

E. 2

The

\* " The Case which Dr. Watson and myself attended,  
" concluded,

The body after death afforded nothing uncommon to the view. There was no alteration in the colour of the skin at the scrobiculis cordis, or in that which covered the Recti Muscles. The stomach and intestines had quite a healthy appearance; the latter were moderately distended with flatus, and the former contained near five ounces of a blackish coloured fluid, which smelt strongly of the Camphire he had taken, and probably owed its colour to the Flor. Zinci, &c. There was no remains of the bread and milk mixed with this. The liver and diaphragm were without the least disease: The vesica fellea was full of bile: The lungs afforded the same aspect they do in the healthiest subject: The heart and large blood vessels surrounding it, were not preternaturally distended with blood: The back part of the fauces, and indeed the whole internal surface was without the least mark of inflammation; and so was the œsophagus upon being divided its whole length.

The

“ concluded like all the instances of the genuine Hydrophobia on record, fatally.” *Vid. Dr. Fothergill’s Case of the Hydrophobia republished.*

The brain gave no further information than the viscera of the chest and lower belly. If any thing, the vessels seemed rather fuller of blood than common, but it should be remembered the subject was a healthy young one, who was not under disease much more than eight and forty hours.

OBSER -



## OBSERVATIONS

ON THE

## HYDROPHOBIA.

FREQUENT mention is made in the writings of the ancients of the Hydrophobia ; \* and the learned reader will find in their works, a long catalogue of remedies, § recommended both as prophylactics and cures for it. These however rather serve to shew the ready credulity of their authors, than to furnish us with proper means of combating the dreadful consequences which follow the bite of a mad-dog, when the human body is infected with its poison. Medical books also contain a number of cases, which have been published

\* *Cælius Aurelianus* has given a good description of the disease, with his accustomed peculiarity of stile.

§ Many of these are enumerated by *Boerhaave*, in his 114th Aphorism.

published as examples of the Hydrophobia : but in respect to many of these it may be justly doubted, whether the disorder they are meant to represent, was the same with that of which I have given the above detail.

They are many of them so replete with the marvellous, or so deficient in point of accuracy, as to leave the reader in suspense as to the fact for which he consults them : but in this remark, I do not mean to comprehend some recent publications in the last volumes of the *Medical observations and enquiries* ; particularly one by the ingenious Dr. J. Fothergill \*, wherein the origin, progress, and termination of the disease is marked with great precision.

It appears from the invaluable work of Morgagni, in which we see the result of a long and laborious life, spent in examining morbid bodies, and in reporting their appearances after death, that it never happened to that accurate anatomist, to meet with a subject who had fallen a martyr to the Hydrophobia § ; and he is obliged to his

\* *Medical Observations and Enquiries*, vol. iv.

§ Atque ægre fero, nondum licuisse mihi, Hydrophobum, nedum plures, ut opus fuisset Hydrophobos persequere, vel  
quod

his correspondent for a communication on this head. It has indeed been the lot of but few physicians, who have passed even a long life in the exercise of their profession, to have seen this singular malady; and to have the advantage of correcting any erroneous opinion they might have entertained of it. The number of those is still smaller, who having been witnesses to it, had the opportunity, or the inclination, or both, of examining by dissection, the state of the body after death.

A notion has prevailed, that there was some danger accompanied an attendance on those miserable beings labouring under the Hydrophobia \* from a belief they were strongly disposed to offer violence to every one about them. This perhaps may have

quod ejus rei copia non fieret, vel quod si fieret, tum verò quasi fato quodam gravissimis occupationibus, aut valetudine minus commoda destineret. Morgagni Lib. 1. mo. Epist. 8. vo. Art. E. E.

\* Sauvages *Traité sur la rage de Chien* (to which the Academy of Toulouse adjudged their prize) I have not seen; but in his late work, the *Nosologia Methodica*, there is some account of the Hydrophobia, in which the same spirit of refinement is visible, which pervades every other part of that learned Frenchman's book. Vid. *Nosologia Methodica de Hydrophobia*.



have had its share, in withholding physicians from taking that near and satisfactory view of the disease they would otherwise have done\*.

Whether to this single cause, or to a variation † in the symptoms, which may possibly be modified in some measure, by the different habit of the patient, I will not determine; but it is certain, the diligent enquirer will too often find his industry rewarded with disappointment and dissatisfaction, upon comparing what passes in the living body, with what has been written

F ten

\* A close and repeated attendance, in every stage of the disease, has convinced me, that there is no foundation for such prejudice, neither of the patient's shewing the least inclination to hurt any body, nor the last when forcibly plunged into cold water and held there. Let no one, therefore, from an apprehension of danger, withhold that assistance which so dreadful a calamity calls for.

† That this actually does happen, I am much disposed to believe. In the two first cases there were some symptoms which did not occur in the latter, such as the *veretri frequens tensio*, the constant spitting of a flaky mucus, &c. and in the last instance the perturbation towards the end of the disease was greater. The little boy walked incessantly for three hours under violent agitation; the identity of symptoms nevertheless which characterize the Hydrophobia, are so singular and invariable, as will at all times serve to distinguish it from every other disease.

ten on the subject. He will frequently meet with a tedious enumeration of symptoms, which I have been silent upon, all of them calculated to increase the fear of the spectators, such as spitting at the bystanders, barking, biting, &c. I much doubt, whether these circumstances ever did happen. They are certainly not constant attendants; and I am rather disposed to believe, that some things bearing a remote resemblance to these extraordinary appearances, have been magnified, by the fears of the spectator, into such terrifying enormities.

The humane pathologist will with pain contemplate the action of the canine poison upon the human frame; from the commencement of the dread of liquids (as it is called) to the final termination of the disease.

It cannot have escaped the reader's attention that in the two first cases, the disorder began with evident signs of the stomach's being affected \*. In the boy, a  
boiling

† It appeared upon dissection, that the contents of Nourse's stomach were nearly equal to the whole of what he had taken during



boiling heat in that organ troubled him much. In the man, a vomiting immediately preceded the complaint. The stomach was not long in sufferance alone : the fauces speedily partook of the malady, and soon after the *Aquæ Pavor* made its appearance.

It is very generally believed that a considerable difficulty in swallowing is joined to the dread of water ; and that the *Oesophagus* with the muscles subservient to deglutition are specially concerned in this disease. The attentive observer will find the matter misrepresented : the principal foundation of the evil seems to rest upon a *morbid sensibility* both of the *external* and *internal fauces*. For the sight of a liquid, or the application of any substance to the internal fauces, but more especially of a fluid, instantly excites the most painful feelings. Nay, the same symptoms are produced by touching the *external fauces*,

F 2

with

during the last 24 hours preceding his death. The *stomach* had therefore either lost that contractile power, by which its contents are propelled into the *duodenum* ; or what is I think more probable, there was a stricture upon the lower orifice of that organ which opposed the exit of its contents.



with a fluid \*, or by the contact of cold air with these parts ; and nearly in as great a degree. But a solid or a fluid substance being conveyed into the Oesophagus ; the transit into the stomach is accomplished with little or no impediment : so that in fact the difficulty is surmounted, before the patient is engaged in the action of swallowing.

Nor is the excruciating pain which never fails to be the companion of every attempt to drink, felt in the *fauces* and *throat* : it is at the *scrobiculus cordis*, to which the sufferer applies his hand ; whilst a kind of sobbing interrupted respiration is observable, somewhat resembling that which a gradual immersion of the feet in very cold water occasions ; but in a much greater degree. The countenance is at the same time distorted with the *risus sardonius*. The muscles of the abdomen are forcibly contracted,

\* The increased sensibility is not confined to the internal and external fauces, but the *cutaneous nerves*, upon the whole surface of the body, also have it in a highly morbid degree ; for in the last patient his interrupted sobbing respiration with pain at the *scrobiculus cordis*, was renewed, as often as a fresh part was touched by the undulatory motion of the warm water.

tracted, and a sense of suffocation seems to threaten the patient with immediate death. From the presence of the *risus sardonius*, from the short interrupted manner of breathing, from his pointing constantly to the *scrobiculus cordis*, and from the exquisite torture returning with so much vehemence, I was led to believe, that in the *Hydrophobia* a new *sympathy* was established between the *fauces* and the *diaphragm*; that the latter was drawn into a most severe *spasm* as often as any offending cause operated upon the former: and that the *abdominal muscles* were in the same manner affected is clearly evinced, by the contents of the *urinary bladder* being at the same time forcibly expelled. Future observation will confirm or refute this opinion: in the interim it may not be amiss in those to whom the *Hydrophobia* may occur, to direct their endeavours towards diminishing that *morbid sensibility* above-mentioned: which seems to give rise to so much mischief.

Amongst many other singularities to which the bite of a mad-dog gives rise, is the action of the poison upon the part to which it is applied; and by which it distinguishes



stinguishes itself from every other animal or vegetable poison that I at present recollect. For neither extraordinary inflammation, nor any other circumstance which marks its violence, is here discernible. Nor can the progress it makes towards an admission into the system be discovered by *diseased lymphatics*, betwixt the wound and the next *conglobate gland*; or what is more common in the *gland* itself. Evident tokens betray the action of other poisons on a part denuded of its cuticular covering. In inoculating with the *virus* of the small-pox; the cuticle being first separated, a small particle of variolous matter is placed in contact with the part thus deprived of its defence. An inflammation is raised within a certain time, and an *ulcer* follows, A portion of matter which this *ulcer* furnishes is absorbed; passes into the circulating blood; raises a fever, and produces the same disease with that which furnished the virus.

When the *Venereal Poison* is applied to the human frame, the external part exposed to its action is very generally first affected, and afterwards the circulating fluids, which



which deposite the assimilating *Leven* upon particular parts, with symptoms peculiar to that disease.

The bite of the *Viper* also occasions *pain* and *inflammation*, which are propagated along the limb that has been wounded.

When a wound, however slight, is made by an arrow, or any other weapon armed with the *Woorrara*\*, or *Lamas*, or *Ticunas* poison, the first action is upon the wounded part; and immediately in quick succession, its deleterious effects are communicated to the common sensory, and to the whole frame; and speedy death is the consequence. A different process is observable when the Canine poison shews its baneful affects. The wound heals of itself, or under the most simple means; and without difficulty, The limb on which the wound was inflicted †, is scarcely more affected

\* See Bankart's History of Guiana.

† It must not however be disguised, that in two of the cases I have related, pain in the limb bitten was amongst the first symptoms which preceded the Hydrophobia; and in the other, where the cheek was wounded, pain and tightness about the temples accompanied the commencement of the disorder: but in neither of the examples, did the wounded part or scars undergo any change.

affected than any other part of the body; and when the Hydrophobia appears, as well as during its continuance, even to the last moment of the patient's life, we have seen it continue unchanged \*, notwithstanding what has been said by some writers on this subject. Nor is there any evidence, so far as the obvious qualities of the blood may be trusted, of that fluid being altered, or acted upon by it. Nor do the *Lymphaticks*, nor the next *conglobate Glands*, betwixt the part wounded and the heart, shew any signs of disease.

The distance of time also from the bite, to the appearance of the Hydrophobia, is different and † uncertain. In the boy whose case I have related, it was a month; in Dr Fothergill's patient it was three months;

\* *Frequenter notavi caput ejus versus partem dextram, ubi læsus fuit a Cane, fuisse convulsum, in qua à Cicatrice satis insigni exstitit morsus vestigium; adeo autem ab omni dolore liberum, ut plane istius morsus oblitus esset, prius quam à disquisitione a me facta, nunquid aliquid tale accidisset, istius recordatione animum ejus perfricassem.* Ridley's Observ. P. III.

† How this variation of time in the appearance of the Hydrophobia, is to be accounted for, I know not. Poisons which are supposed to act upon the circulating fluids, are more manifest and speedy in their operation.



months; in Dr Dickson's it was four months \*, and in the man it was nine months.

We are then, I believe, to seek for its action, solely in the Nervous System †, whose

\* Vide *Med. Observ. and Enquiries*, vol. III.

† The action of the Canine poison seems confined to this part of our frame, inasmuch, that it may be doubted whether the qualities of the blood are altered by it. It is not my intention here, to enter upon an enquiry how far the properties which this fluid has in circulation may be imparted to the several secretions: nor to speak of that wonderful faculty, which the various organs in the human body destin'd to this purpose possess. The power which the living body enjoys, of preparing such a diversity of fluids from the same common mass, notwithstanding all the improvements which modern physiology can boast, still remains a mystery that must attract our admiration. It is sufficient for my purpose, that the saliva of the Hydrophobus has been suspected to contain a highly noxious quality, of which the breath of the patient is supposed to partake. It is possible this opinion may be well founded, but with the reader's permission I will mention a fact or two which seem to militate against it, whilst at the same time I freely acknowledge the insufficiency of a single experiment to ascertain any philosophical truth, and much less so where the interest of the community is involved in the decision.

I never was of opinion that the Hydrophobia was a disease so highly contagious as to be propagated by the breath of the patient, and therefore have at all times without apprehension visited those who have come under my care. The example was of use in removing fears which the attendants had, especially in the first instance of the disease, which occurred to me: It is the duty of humanity to destroy such prejudices



whose laws, altho' we are somewhat better acquainted with than we were fifty years ago, yet a much larger share of knowledge is requisite, in this respect, before a probable explanation of the several Phœnomena attendant on the bite of the mad-dog, can be attempted\*. At present it may suffice to say, that the poison of the dog, or other mad animal, acts upon the nerves, by impairing and disturbing their influence; and this at length increases to so great a degree, as to speedily end in a total extinction of the vital principle.

It has been hitherto a matter undetermined I think, how far the Hydrophobia was to be considered as an inflammatory disease;

judices as soon as may be. I know not who would be brought to attend the disease, were this opinion of its contagious nature to be admitted. A nurse who was constantly with the child, who very often kissed it, and who repeatedly received its breath upon her face and mouth, has not experienced the least ill effect from it. Two months are now elapsed, since the dog was inoculated with saliva taken from the last patient; he continues at this time quite free from disease: If at a future period any evil should result from the former, or the rabies should appear in the latter, I shall think it a duty incumbent on me to inform the public of it.

\* The reader will see an attempt made to explain the action of this poison, in Dr *Mead's* celebrated Treatise on the subject, but not a satisfactory one.

disease ; or at least connected with an inflammation of those parts \* more particularly concerned ; and in general *bleeding* † with the Antiphlogistic method has been employed.

The want of firmness in the pulse, the evident diminution of vital energy, with those spasms that present themselves to the notice of the Physician, will, I think, remove any doubts he may entertain as to what class of diseases it belongs. I do not hesitate in placing it amongst the truly spastick ones ; undisguised by that mixture of symptoms, which may sometimes mislead a cautious practitioner.

Nor should I consider an inflammatory discolouration of the fauces (should this

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ever

\* *Mordendi desiderium, in a Cane rabido morsis, magni nominis medicus, referebat ad inflammationem faucium, et conjunctam Anginæ speciem ; sed aperta aliquoties cadavera, nulla inflammationis vestigia apparere. Bonet. Sepulc. Anat. P. 188. Observ. 10.*

† It is true Dr Fothergill remarks, that there was *an inflammatory density of the blood* in his patient, which induced him to order a second quantity to be drawn. This, however, is an equivocal sign of the presence of inflammation, or even a tendency to it in the attack of a disease, and cannot therefore be admitted as decisive in any respect. See *Dr Fothergill's paper on the Hydrophobia. Med. Observ. and Enquiries, vol. iv.*



ever occur) in any other light than as an accidental adjunct; not of importance sufficient to induce the Physician to swerve from that line of treatment which a genuine spasmodick affection requires.

The confidence with which medicines have been recommended to the public, as effectual in the cure of this dreadful disorder, did at first, I confess, fill me with expectation that it might be checked in its progress, and at length finally subdued. In this I was deceived. A medical treatment more suited to the end in view than any we are yet acquainted with, is devoutly to be wished for, of sufficient efficacy to controul a disease, amongst the most acute, and I believe the most deadly, to which mankind is exposed \*.

It

\* *Raro vel nunquam quartum diem excedit hic morbus, computando imprimis a fine primi gradus.* Van Swieten's Comment, tom. 3, p. 558.

*Neque Asclepiadis Sectatores intelligibile quiddam asserunt, qui propterea passionem tardam putant, quia post plurimum tempus morsus inflicti, ægri morte afficiuntur. Cum non oporteat illud tempus ægrotanti imputari, quo nondum rabie vexatur, quippe cum necdum corpus afficiat: et quum emicuerit non habet superpositiones seu dilationes, sicut qui specialiter tardis afficiuntur passionibus, et ab hoc celerrime ægrotantes interficiat non solum*

It is not a pleasing task, to adduce to the public another example of the failure of a medicine, which, as a Prophylactick and cure, has been possessed of its good opinion,

*solum ut acuta sed etiam ut continua passio.* Cæl. Aurel. de Hydroph. Cap. 11.

*Quum à nata Medicina hucusque, omnes fere Artis Principes deplorent demorsorum Prophylaxin, vix ullam certam haberi; et jam aquam paventium sanatorum, exemplum dari certa fide nullum.* Boerhave's Aphor. de cognosc. et curand. morb. Aphor. 1139.

The learned Commentator on Boerhave's Aphorisms, seems to have no doubt of the Hydrophobia having been cured, and relates the following story, which the reader will think of as he pleases. I cannot however refrain from expressing a wish that the disease had been more satisfactorily identified than it is.

*Helmontius oculatum testem se profitetur. Vidit enim transeuntem navem, et in illa senem nudum, funibus vinctum, habentem pondus pedibus affixum: Zona sub axillis transeunte alligatus erat Antennæ: à cane autem Rabido demorsus senex ille jam erat Hydrophobus. Credebat Helmontius, quod miserum suffocare sub aquis in animo haberent, ne propagaretur contagium: at Nauta audacter promittebat senem post rediturum sanum. Pretio impetravit Helmontius, ut socius et testis esset hujus curationis; viditque quod senem in altum prius sublatum in mare præcipitem dederint, et sub aquis retinuerint tanto tempore, quo Psalmus Miserere recitari potuisset. Postea ad huc binis vicibus submerserunt, sed non tam diu: dumque mortuum suspicaretur Helmontius, solutis vinculis cepit aquam marinam, quam hauserat evomere, et revixit, postea rabie liber. Testabatur autem Nauta, omnes Hydrophobos sic sanari posse.* Van Swieten's Comment. Tom. 3d. Page 559.

The Unicum remedium of Celsus is a remedy of the same kind. *Vide Anc. Corn. Celsus Lib. 5. Cap. xxvii.*



pinion, and of unshaken reputation ; but truth demands it.---The danger of acquiescing under an exhibition of the *Ormskirk Medicine*, is now evident, and will, I hope, create a due degree of caution in those, to whom they who are so unfortunate as to be bit by a mad animal, may commit themselves.

Of the great variety of remedies which have had their day of reputation, there is not one which has not possessed the credit, some time or other, of preventing the noxious effects arising from the bite of a mad-dog.

A more adequate experience has with all of them discovered the deception. Of between twenty and thirty persons \* who were bit by the dog which gave the fatal wound to the poor boy, not one felt the least ill effect but himself; and I find upon enquiry, this has frequently been the case.

\* In the contemplation of so dreadful a disease, there is some comfort derived from knowing that the *Hydrophobia* is by no means the inevitable consequence of being bit by a mad animal ; the chance is in favor of the persons not feeling any bad effect from the bite, altho' no means, by way of prevention, are employed ; as must appear from the fact above-mentioned.

case. In the above number were some who took the Ormkirk Medicine; others went to the salt water; and a part of them made use of no remedy; yet these fared equally well with the most attentive to their injury. The same thing has often happened before; and much merit, I doubt not, has been attributed to the medicine taken, from that celebrated one, of *Sir George Cobb*, down to the *infallible* one which my good *Lady Bountiful's* Receipt-Book furnishes.

Amongst all the Prophylacticks now in use, I would recommend an application of the actual Caутery \*, to the part immediately after the bite; or, what I should prefer to this, a dilatation of the wound  
if

\* *Morgagni* supposing with *Salivs*, that the first signs of the approach of the disease were to be found in the part that was wounded, proposes to prevent its further progress by taking the piece out. *Non adeo difficilis ni partis conditio interdum obstaret, esset preservatio, vel ab imminente jam morbo, si cum primulum dolores, aut pruritus, ut etiam aliquando contigit, aliæve mutationes in sanata carne oborirentur, confestim paulo plus, de hac abscinderetur, quam olim fuerat demorsum, aut alte eadem inureretur.* I should very much doubt whether this would be of service to the patient, if the Hydrophobia had made its appearance in any degree. Pain in the limb wounded is a symptom with which the disease seems to commence. *Vid. Morgagni de Causis et Sedi-bus Morborum per Anatomem indigatis.*



if small, filling it with gun-powder, and setting fire to it: This would produce a laceration of the part, would secure a free and continued discharge for some time, and possibly the action of ignited gun-powder upon the poison, may have its use.

Disproportionate as the means we now possess, may be found to the cure of the *Hydrophobia*, I fear we must as yet be contented with them. It is not from reasoning on the viscidness of the *Canine Saliva*, or on the *acid* quality of the poison, that we are to expect any useful improvement, in the treatment of so terrible a disease, but from well authenticated Cases recorded with accuracy. Let us accumulate facts 'ere we begin to reason, and conduct this with a strict regard to the established laws of the animal œconomy. This method of improvement may be slow in its progress, but will in the end make us more intimately and usefully acquainted with the disease.

I know not any disorder to which the human race is exposed, where medicine shews so little power as in the *Hydrophobia*. The  
disease,

disorder, from its first appearance, possesses the frame so entirely, as to render it superior to the controul of the most powerful remedies which the *Materia Medica* affords, and so continues to its termination in death. Opium, tho' given with more than common freedom \*, does not procure even a short suspension from those violent spasms, and excessive perturbation, with which the miserable patient is tormented; nor does it betray the least narcotic quality, when given even to the amount of half a dram for a dose. The sedative powers of the warm Bath proved greater than Opium, but did not materially affect for any time the violence of the symptoms; and after a few repetitions it ceased to have any visible action. Mercurial Ointment, which possesses in no mean degree a power of allaying inordinate contractions when applied externally, was of no avail, altho' used in an *Herculean* quantity. One of the most powerful mercurial preparations given in-

H

ternally,

\* In the course of fourteen hours the first patient swallowed 57 grains of Opium, besides half an ounce of Laudanum, which was given in a Clyster, and what was applied to the throat externally. In the last Case, Opium was given by no means with a sparing hand to a child eight years old.



ternally, with those taken from other metals, musk, foetid medicines, and camphire, were found upon trial equally ineffectual in procuring the patient a respite from his increasing disease. A sudden immersion in cold water carried to an extremity, made a more manifest impression upon the malady; but no lasting or essential advantage was gained by this, forcibly as the common sensory and whole nervous system must have been acted upon by it. At present I cannot propose to myself any other plan of treatment which promises to be more successful. May accident, industry, or the wisdom of our profession speedily provide us with means more adequate to the removal of one of the greatest calamities to which mankind is exposed! I have seen enough of it to gratify all my curiosity, fully to satisfy me of the nature of the disease, and to make me sincerely wish a fourth example may not occur, until I am better prepared to meet so formidable an enemy.

OF THE

## CÆSARIAN SECTION.

I SHALL preface the following detail of the *Cæsarian Section*, with some account of the poor woman's health, who was the subject of it, previous to her Pregnancy; from whence it will appear, that other causes may alter the firm texture of bones, so as to occasion a distortion, besides a *morbid softness*, of which we have some curious examples recorded.

ELIZABETH HUTCHINSON, aged forty, was in the year 1775 admitted an In-patient of the Leicester-Infirmery, having a Paralysis of the lower limbs. She was the mother of five children, all of which she had brought into the world, without any other circumstances, than the ordinary ones attendant on Labour. Since her last child,



a great deformity of the Spine had taken place, and as appeared afterwards, of the bones of the *Pelvis* also. She left the Infirmary, after a residence of six months, in many respects better for the treatment she had there received, and continued after her dismissal, to recover still more the use of her limbs. About a twelvemonth after this she found herself breeding ; and went her full time without any thing occurring singular enough to deserve notice.

Upon her being seized with Labour-pains, a female *Accoucheur* was called to her assistance, who finding the *Pelvis* uncommonly small, and that the labour did not advance after two days attendance, desired some further help might be procured. Mr. *Atkinson*, a *Surgeon* of *Leicester*, was sent for ; who upon examining the state of the parts, was fully satisfied that the *Pelvis* was much smaller than any he had ever met with before. He found the deformity (occasioned in part by the distortion of the last *Lumbar Vertebra*) exceedingly great ; and as he then thought a separation of the *Symphysis* of the *Ossa Pubis*, but notwithstanding this, it was absolutely impossible to introduce his hand :  
Nor

Nor from the uncommon narrowness of the Pelvis, could the head of the child make any progress.

In a Case so singular, and withal so dangerous, he desired to have the advantage of a consultation. Accordingly Mr. *Fox*, a gentleman of this town, eminently skilful in that branch of business, and of great experience, immediately went with him to the poor woman. Upon availing himself of the necessary examination, he was immediately impressed, as the former had been, with the impracticability of introducing more than two fingers, and of the very little chance there was of her being delivered; unless nature should contrive some other means of surmounting this difficulty, than their imagination could suggest: for it did not appear to either of them, that the diameter of the Pelvis, from the *Ossa Pubis* to the *Sacrum*, was more than an inch and an half, to which the distance from one *Ischium* to the other seemed to bear a pretty exact proportion. Under these circumstances they did me the honour to desire I would meet them, with the remaining part of their Brethren resident in Leicester; and by a candid  
unreserved



unreserved comparison of opinion, to devise some means if possible, of assisting the poor woman ; 'ere the last method, with which the Profession is acquainted, was put into execution ; for the child had not made the least advance, since her labour began. The woman was wearied with fruitless pains, and her strength much reduced, notwithstanding some slumber had now and then been procured by the occasional administration of *Extr. Thebaic*. The poor object was now removed, from a dark inconvenient cold room, to a warm one in the Leicester-Infirmery. For altho' Women with Child are not allowed to lye-in there, the singularity and urgency of this case, in the opinion of every one, made a very fair exception to a general rule. She was accordingly carried in a Sedan-chair, to a warm apartment in that House.

Seven Gentlemen of the Faculty, in succession, satisfied themselves, that, notwithstanding her waters were said to have come away some days before, yet the membranes with a portion of fluid, presented themselves to the touch ; all but one agreeing in the impossibility of introducing more than

than two fingers. This Gentleman expressing his hopes, that by a further delay, the might be delivered, by means which are practised daily ; a respite of six hours was given her, notwithstanding the manifest decline in her strength. At the expiration of this period, the remaining portion of water came away ; and in the interim, she had taken a little food, and got now and then some disturbed sleep.

The person above spoken of, after this interval, made a second attempt to introduce his hand ; this put the woman to exquisite pain, and proved as ineffectual as every former one. What was now to be done ? The child was alive and vigorous ; the woman's strength extremely exhausted ; her labour not the least advanced, from the first hour : and the Pelvis so straight, that should it be thought advisable, to risque saving the mother's life, at the expence of the child's ; nobody could undertake to use an instrument with any certainty, in the space of an inch and an half ; and this, in the opinion of every one, was the largest space this ill-formed Pelvis afforded.



forded. It was therefore concluded to mention to her, the extreme danger of her situation, both to herself and child ; and to propose taking the latter from her, by the assistance of the *knife* ; the alternative of this proposal being, in the judgement of every one, the inevitable death of both mother and child. The task of mentioning this dreadful expedient to her, was allotted to me ; and I must confess, the very general want of success, when the *Cæ-sarean Section* has been performed, under every advantage that skill could afford, made it an office most unpleasing.---The poor woman, though fully apprized of the danger, readily gave her consent ; and every preparation being made, and the Assistants commodiously placed, each having his share of the business allotted to him, Mr *Atkinson* began the operation, by making an incision on the left side of the Abdomen, thro' the skin, and *Adipose Membrane*, about six inches in length ; the Abdominal Muscles were then divided, and afterwards the *Peritonæum* ; when the *Uterus in Situ* was discovered ; this was cautiously wounded, first by puncturing it

it with a lancet, and afterwards with a probe pointed knife, to the extent of four inches : Immediately the *Placenta* protruded itself ; it was instantly removed, by an attentive expert assistant, when a healthy full-grown child was discovered, with its breech presented to the *Os Uteri*\*. This was extracted without the least injury, in the course of a few seconds ; the lips of the wounded Uterus being gently flipped over its head, with all the caution which an organ of that importance, under such an injury, demanded. The effusion of blood was inconsiderable ; but a large portion of the *intestines*, much inflated, were pushed out, and gave the Assistants some trouble ; their return however was entirely effected, and the operation finished, by uniting the external wound with the *quilled Suture*.

The operation was performed on Friday evening, and immediately after this, an  
I anodyne

\* This position of the child confirmed the propriety, and necessity of the operation, for to a Pelvis so ill formed, as to render the exit of the child impossible, was added a præternatural presentation, which could only be altered, by introducing the hand into the Uterus : How impracticable this was, has been before taken notice of.



anodyne draught, with thirty drops of *Tinct. Thebaic* was administered; a Clyster consisting of an infusion of *Cammomile Flowers*, with *Olive Oil*, was ordered to be injected in four or five hours, and the whole *Abdomen* was to be covered with scalded bran, inclosed in a flannel bag, which was to be kept there during the night.

On Saturday morning upon visiting her, I found she had passed the night without pain, and had slept a little. She had taken near a pint of *Sago*, *Panada*, and *Broth*, at different times, and this without sickness or vomiting. In the morning it was discovered, that a considerable portion of Intestine, had insinuated itself betwixt the stitches, which were three in number, and seemed when made, quite sufficient to keep the lips of the wound accurately in union; this was returned into the *Abdomen*, and two more futures were added to retain it there. The countenance of the poor creature was ghastly; there was a general coldness over the frame, and her pulse was very feeble; she also complained much of fullness in her stomach, and of a general uneasiness;

uneasiness ; the Clyster was not yet come away ; a *Cordial Julep* was ordered, of which she was to take some spoonfuls frequently ; her room was to be kept very quiet, and bladders of warm water were to supply the place of the former *Fotus*, which from its moisture was found inconvenient ; and as a means of procuring an evacuation by the intestinal Canal, she was directed to take two drams of the *Ol. Ricini*, in some broth at intervals, until a stool or two was procured. A strict injunction was also left, that some of the before-mentioned spoon-meats, should be given in small quantity, as often as her stomach would receive them.

On Sunday morning I found she had passed the night easy, and had got a good deal of sleep : Her pulse was fuller and firmer, her respiration free, her faculties clear, there was a moderate sweat upon the skin ; the wound was sore, but not painful, excepting when she inspired deeply ; her tongue was covered with a brownish crust ; her thirst was troublesome ; she had made water twice in the night, but had no stool yet since the Operation. A



purgative Clyster was this morning injected, which was returned without bringing any stool with it; upon injecting this Clyster it was discovered that the *Sphincter Ani* had lost its contractile power, making no resistance to the admission of the pipe, nor did it retain any portion of the Clyster when injected; She had vomited near a pint and an half, of a blackish coloured fluid: since which she had taken about a pint of Caudle, made with malt liquor, and this at her own request; which remained easy upon her stomach. Half a pint of warm Oil was to be injected as a Clyster; to be kept, if possible, by artificial means, and to be repeated occasionally. She did not complain as yesterday of fullness at her stomach; had last night ten drops of *Tinct. Thebaic*, in some small Rum and Water. Fifteen drops were ordered to be taken in the evening, repeating this in an hour or two, if there should be occasion.

Monday Morn. She vomited this morning quite as much as the whole food she had taken the preceding day and night; neither the Castor Oil, nor the Clysters, had  
procured

procured any stool; her pulse was irregular, feeble, and scarcely to be felt; the coldness over her whole frame was again returned; her countenance was more ghastly; every thing seemed to wear a most unpromising aspect; her intellects were perfect; she had taken Claudle freely; her Anodyne was ordered to be repeated at night; the Bladders to the Abdomen were to be continued, and a Solution of Manna was substituted for the Castor Oil, as the latter made her sick; a Clyster of broth, made of sheep's-head, was also to be injected once in eight hours, or until a stool was procured.

Tuesday Morn. Had not vomited, nor had any stool yet; continues to take her food; her pulse was more regular and firmer; her countenance less ghastly; she complained of fullness at her stomach; and had, during the course of the evening, three stools, two of which were loose. She died at three o'clock in the morning. A consequence that I believe will very generally follow such a *wound* of the *Uterus*, with its unavoidable *exposure* to the *air*.

Upon



Upon opening the *Abdomen*, which was very considerably increased in its bulk, from flatus in the intestines; there was no coagulated or fluid blood found in its cavity, but a quantity of dark coloured foetid matter. The Intestines were not inflamed nor diseased, excepting a small portion of the *Ilium* about the size of half-a-crown, which was of a dusky brown colour and adhered to the external wound. The *Uterus* was contracted nearly as much as it usually is, at that distance of time after delivery. The wound made in its substance, was not in the least closed. That part of it which was extended above the *Ossa Pubis*, (and from the smallness of the *Pelvis*, this was the greater portion) was of a deep dusky colour, and in a state of *sphacelus*.

The Plates annexed exhibit a most satisfactory view of the distorted incommo-  
dious Pelvis, which gave occasion to so terrible an operation, and will render any description of the bones here unnecessary. The *Reflections on Dividing the Symphysis of the Ossa Pubis* which has been proposed under similar circumstances as a substitute for the Cæsarian Section, by *M. Sigault* and

*Le*

*Le Roy*, cannot but prove very acceptable to the intelligent reader, and it is to be hoped will prove a seasonable check (at least on this side the water) to the ardour with which those gentlemen recommend that operation.

The child was found to have an imperforated *Penis*, but this inconvenience was effectually removed, by a slight puncture with the lancet : He has since been baptized under the name of *Julius Cæsar* ; is a healthy fine boy, now somewhat more than a year old, and likely to live.

To



TO DR. VAUGHAN,  
at LEICESTER.

DEAR SIR,

WHEN you were pleased to send me the *pelvis* of your unhappy patient, you were desirous that it might be made as useful as possible. I look upon every thing of that kind which is given to me, as a present to the public; and consider myself as thereby called upon to serve the public with more diligence. To fulfil that duty, I have exhibited the *pelvis* at my lectures, with many others of singular conformation, both to explain that species of *mollities ossium*, and to illustrate some observations which I made upon a subject of a very interesting nature, viz. the operation newly introduced into practice, of cutting the *Symphysis* of the *Ossa Pubis*. Some time after my course of lectures was finished, it happened to be my turn, in rotation, at a quarterly meeting of physicians, to read a paper upon some medical subject. I chose that operation for my subject, because I thought at this time it might

To Dr VAUGHAN, at LEICESTER. 75

might be particularly seasonable : and for the same reason I send it to you, that, if you think it will be useful, you may publish it in the second edition of your book, which you inform me is soon to be put to the press.

Since the paper was drawn up, I have read Mr. *Le Roy's* pamphlet, which he was pleased to send me lately. This gave rise to a few additional reflections, which I have thrown into two notes.

I am, &c. &c. &c.

Sept. 10th  
1778.

WILLIAM HUNTER.

K

REFLEC-



## REFLECTIONS,

OCCASIONED BY A DECREE OF THE

FACULTY OF MEDICINE

at PARIS;

RELATIVE TO THE

OPERATION OF CUTTING THE

SYMPHYSIS of the OSSA PUBIS.

**I**N some of the most deplorable conditions to which the human body is liable, the Professors of Surgery and Midwifery have had firmness enough for the sake of saving life, to recommend operations which our very nature seems to abhor.

In such cases, the determination appears sometimes to be founded on a bare calculation of the chances for life; and the rule *remedium potius anceps, quam nullum*, is perhaps too often held out as an unerring guide.

Men of humanity, as well as of a reasoning faculty, need not be told, that in  
desperate

desperate cases, our judgment and practice are not to be regulated merely by the chances with respect to life. The sufferings of the patient, both in body and mind, should be fairly put into the scale, against the better chance for life. In such a trial, I have seen a patient pay a much higher price, in sufferings, than the little chance of saving life was worth.

These reflections should be especially in our mind, when we are to give an opinion in any case of the Cæsarian Section, or of cutting the *Symphysis* of the *Ossa Pubis*. And, in calculating the chances of a life to be saved, we should take care to make a just estimate of the life itself. Thus, in more advanced age, the value of it is less in proportion; it is less too, in proportion as it is to be attended with pains or infirmities, or with whatever will diminish or destroy the enjoyments of life. Existence is so nearly equal to nothing, that its real value must arise from its connection with some kind of enjoyment; and where, upon the whole, there is none, life is either worth nothing, or a positive evil.



The value of life rises likewise in proportion to the desire of life, and the dread of death. The life of the mother is, for that reason, almost of an incomparably greater value than that of an unborn child; a being which, we may suppose, has no enjoyment, and has neither a desire to live, nor fear to die. This appears to be reasonable; and experience shews it to be the dictate of nature, as well as common sense. I have lived thirty-nine years in one of the largest cities in the world, and, for the greater part of that time, in a very active station; so that numbers of dangerous cases must have come within my knowledge, and these among all ranks of mankind; yet I never, in any instance whatever, knew the life of the child put into any sort of competition with that of the mother, by the husband, or any other person.

When adventurous, bold, or dangerous opinions in the healing art, are proposed or practised by an individual, no great, or at least no extensive mischief will readily ensue. A suspicion of the author's partiality weakens his influence, and brings doubt  
and

and caution along with his new opinion. If it strikes a practitioner with the appearance of utility, he weighs it in his own mind, gets all the lights which he can procure, consults his most intelligent and experienced acquaintance; and after all, if he resolves to try it, still he sets about it with some hesitation or diffidence, and therefore with every precaution that he can devise.

It is time only, and a variety of experience that can finally decide upon the utility of a new practice. When once it is fairly started before the public, tho' it may meet with unreasonable opposition, if it can bear the test of general experience, it can hardly lose its ground: it may be kept down for a time; but must prevail in the end. So it has happened to the Peruvian bark, Inoculation, and many other improvements.

On the contrary, with whatever approbation a new proposal of this kind be received, and however encouraging the prospect may be, at setting out, or even after some trials; if it cannot bear the test of general experience, it must fall into disrepute;



repute ; as it has actually happened to the hypogastric section for the stone in the bladder, and to a thousand pretended improvements in physic and surgery.

But, when a large body of respectable, learned and grave men, reasonably supposed to be competent judges, embrace a novelty in practice, with unbounded approbation ; and by their testimony, and honours publicly conferred, give credit and splendour to an opinion, which should be put upon its trial with great circumspection, and finally judged of by much experience ; a door may thereby be opened to great and irreparable mischief ; by letting loose upon mankind, the most mischievous members of society, the ignorant and rash practitioners. It is giving all the encouragement and protection, which such unfeeling plunderers of the distressed could desire.

When any thing of this kind happens, it surely becomes the duty of all those who may have any influence, not to oppose, but to watch the innovation ; and to check inconsiderate ardour and precipitancy : so  
that,

that, as far as reason and experience can guide, we may determine whether the practice which is recommended be at all advisable ; and if it be, what are the particular cases that are fit, and what those that are unfit for the new practice.

Without ascertaining this distinction, a new practice, salutary and useful perhaps in a few rare cases, may very naturally, by an indiscriminate and frequent use, do much more harm than good. This sentiment will not surprize those of the profession, who know my opinion of the *Forceps*, for example, in midwifery. I admit that it may sometimes be of service, and may save either the mother or child. I have sometimes used it with advantage ; and, I believe, never materially hurt a mother or child with it, because I always used it with fear and circumspection. Yet, I am clearly of opinion, from all the information which I have been able to procure, that the *Forceps* (midwifery instruments in general, I fear) upon the whole, has done more harm than good.



I am under apprehensions that the same thing may hereafter be said of the new practice of flitting the joint of the *Ossa Pubis* to make room for the passage of a child, when the Pelvis is too narrow.

To raise a popular cry against this practice, before it is well understood, would be unfair; and would be shewing an unbecoming disrespect to the ingenuity, and no doubt humane intentions of Messrs. Sigault, Camper, and Le Roy, the authors of this operation. We would only wish that it may be received with moderation and doubt; that we may advance with great caution, receive light as it comes upon us with experience; and finally, approve, or reject upon solid ground, and at as little expence to human nature as possible. If it should be adopted, it must, from the nature of the thing, be very necessary to restrain it, within proper bounds.

In the mean time, we should try to guess at its true value, and determine, as far as our present lights will permit, in what cases it promises to be of use, and in what cases it should seem pernicious.

First,

First, Let us consider its supposed advantages, as a substitute for the Cæsarian Operation; that is, with a view of saving the mother or child, when otherwise both must be lost.

Secondly, Let us judge as well as we now can, how far it may be adviseable, in some very difficult labours, with the view of saving the child; in those cases especially, for which the established practice in this country recommends the *crotchet*.

To assist our judgment upon these two important questions, we shall premise some remarks upon the nature of the operation itself, *viz.* cutting through the *Symphysis* of the *Pubis*, and forcing the bones to a certain distance from each other. I have had occasion to perform this so often upon dead bodies, that I do not apprehend I can be much mistaken on this subject.

1. It is extremely difficult to execute it with a *thick* knife, however sharp in the edge. The ligamentous and gristly substance between the bones is so incompressible, that it will hardly make room for the thicker part of the knife to follow its  
L edge;



edge ; but a *thin* knife goes thro' it with great ease.

2. Whoever has had a little practice, will find, that it may be executed without any danger of wounding the *Bladder* or *Urethra* ; because in cutting cautiously with a thin knife, from above downwards and inwards, the instant that the whole is cut through, there is both a particular sound, which informs us that the business is done, and the two bones fly asunder to a sensible distance.

3. When the *Symphysis* is completely divided, the *Ossa Pubis* separate so little a way, that some force is necessary to produce an interval of half an inch ; and upon encreasing the force, till the space of interval comes to two inches and an half, there is a continued crash, from the tearing of the ligamentous fibres at the posterior joints, *viz.* at the sides of the *Sacrum*. This, tho' requiring great force, is easily effected, by bringing the thighs to right angles with the trunk of the body, and pressing the knees gradually outwards and backwards. In that way, a small force  
has

has a great effect, because it has the advantage of a long lever, and is assisted by almost the whole weight of the lower extremities.

4. When such a violent separation of the *Ossa Pubis* has been produced, the *Sacrum* and *Ossa Innominata* remain in contact, only at their posterior parts; the ligaments that connect them at the fore part being all, more or less, torn asunder.

5. The mischief that may ensue upon cutting one joint of the *Pelvis*, and tearing the other two asunder, can be ascertained by experience only. It is proposed, that the incision at the *Pubes* shall not penetrate into the cavity of the *Abdomen*. If, by accident, that should happen, the operation would of course be very dangerous. Lacerations of tendons, ligaments, and fleshy parts, when not complicated with an external wound, generally heal up in a kindly manner, as we see in cases of the ruptured *Tendo Achillis*, dislocations, and fractures.

But, on the other hand, at the time of parturition, the body is remarkably dis-



posed to an inflammatory fever, which is always very dangerous when it rises to any height; and therefore, whatever exposes the body to considerable inflammation at that time. we may presume, must be attended with some danger. And it must likewise be remembered, that women who are exceedingly crooked, are commonly so weak, that they easily sink under any great disease \*.

To

\* It will require seeing what the consequences actually are, in a number of cases, and especially under different states of health, before we can be justified in saying that no mischief is to be apprehended from what must happen to the Sacro-iliac joint.

On this part, Mr. Le Roy, with the partiality natural to the author of a new opinion, seems to be too little apprehensive and too decided. His opinion is first, that the ligaments will stretch in the living body, beyond what we should imagine from making experiments on the dead: and secondly, that dislocations of that joint, with such lacerations of the ligaments as may happen, if properly treated, will heal up, without ill consequences.

I believe, on the contrary, that any force applied to tear the body, will produce nearly the same mechanical effects on the living, and on the dead. The same force that pulls off an arm, for example, from a dead body, would do so, if that body were alive. There is no proof, I believe, that life gives additional strength, either to soft fibres or to inflexible bones: it only gives them a wonderful power of repairing the injury.

As

To return from this digression, to the two great questions before us.

We shall readily allow, that the Cæsa-rian Section, though it may save the child, will almost always be fatal to the mother, and

As to any property which living ligaments possess of stretching, under violence, and permitting dislocations without laceration, I have long taught that, tho' a very general opinion, it seems not to have been founded on observation. Ligaments will not allow of dislocations in dead bodies without laceration: and elasticity, to any degree, either in ligaments or tendons, would ill agree with their use, in living bodies, which is, to keep the parts strongly together. And accordingly since this opinion has roused attention and examination, every case of a recent dislocation that I have known examined, has been found complicated with a laceration of the ligaments.

As to the second opinion, tho' dislocations of the arm generally do well, we see so many miserable and incurable effects of dislocations, and of strains upon joints, arising either from the peculiarity of the local injury, or from the state of the constitution, that I think we must not yet venture to say a dislocation of the *Sacrum* and *Ilium* will produce no ill effects. Our Author, whom we must respect for his candour as well as ingenuity, at the same time that we examine his doctrine with the freedom that becomes science, produces three instances of such a dislocation. The two first ended fatally; and they were certainly known, by the examination of the dead bodies; and the last, as it is related by Bassius, is by no means proved to be a dislocation of the *Sacrum*, nor is there, in my opinion, the least probability that it was; and therefore we must not venture to build upon it in this interesting question.



and therefore that it can never be of much service to mankind. Yet, were the *new operation* to save both in such cases, infinite as the advantage would be to a few individuals, the community would reap but little from it, because it is a case that occurs so very seldom. In this great city and its neighbourhood, it has happened but twice, I believe, in thirty-nine years; I might say, in a much longer period. Now, to compare the value of the two different practices: Supposing the life of the mother to be always lost in one way, and always saved in the other, it would only amount to *one* life saved, out of above twenty millions of people in twelve months. Almost every circumstance of human affairs, if attended to, would be found to have a greater effect in saving or taking away life. If this be a just estimate, it is evident that Mr Sigault was hurried into a little extravagance when he said, (p. 2d of his *Memoire*), that for want of a more gentle and safe method than the Cæsarian operation. “La société, la patrie perdoient tous les jours une infinie des citoyens.”

If

If the Cæsarean Operation has been more often performed at other times, or in other places, much may be reasonably charged to the account of *injudicious* practice ; whether it arose from an ill-grounded opinion, which some practitioners have cherished, that it is not very dangerous ; or, for want of knowing how much may be done, in very alarming cases, by a patient use of other means.

But, in the true case for the Cæsarian Operation, viz. when, without that dreadful resource, there is reason to believe that both the mother and child will be lost, it seems impracticable to save the child, by flitting the *Symphysis* of the *Ossa Pubis* : and therefore this operation can never be adopted, with that view, as a substitute for the Cæsarean Section.

To put this fact, which is of so much importance, beyond all doubt, we shall examine the *Pelvis*, in both the women upon whom the operation was performed in London, and of the woman at Leicester, all of which have been carefully preserved. A figure of the *pelvis* of Dr. Cooper's first patient, for the accuracy of which I can vouch,



vouch, has been published in the 4th vol. of *Medical Observations and Enquiries*. I have annexed an accurate, tho' slight figure of the pelvis of Dr. Vaughan's patient at Leicester; and shall give an account of Dr. Cooper's second case. The first figure of the first plate, is a view of the pelvis of Dr. Vaughan's patient, to shew in looking down upon it, the exact dimension of its cavity. This paper being intended, not for students of anatomy but for practitioners in midwifery, it would be unnecessary to point out the different parts of the bones by letters of reference. The material circumstance to be observed is, the *largest* circle that can be described between the *Sacrum* and the *Ossa Pubis*: it is pointed out by a circle of dots, and amounts to one inch and five sixteenths in diameter. In the same plate, the second figure expresses the largest circle of the same kind, in Dr. Cooper's first patient; and in the third figure is seen that of his second patient. The first plate shews, then, at one glance of the eye, the unhappy condition of those three patients, previous to the Operation.

The

The first figure of the second plate shews clearly, all the space that could have been obtained in Dr. Vaughan's patient, by flitting the Symphysis, and tearing the *innominata* asunder from the *Sacrum*, till the *Ossa Pubis* separated to the distance of two inches and an half. The *largest* circle that could then be described, in the interval of the bones of the *Pelvis*, amounts only to two inches and a quarter in diameter ; which the authors of the new operation say will not allow a living child to pass. Mr. Sigault's Operation was founded upon the supposition that the pelvis was only two inches and an half wide. The second figure in this plate, exhibits the same circumstance with regard to the Pelvis of Dr. Cooper's first patient ; where the enlarged circle amounts only to two inches and three-sixteenths in diameter. The third figure of the second plate represents the enlarged circle in the Pelvis of Dr Cooper's second patient. To put the whole into a few words : The first plate shews the largest circle that could pass through the *Pelvis* of those three women in the united state of bones ; and the second plate represents the same sort of circles when the *Ossa Pubis*



were separated to the distance of two inches and an half.

In such cases as these then (and in such only would the practitioners of this country think of the Cæsarian Section), it is plain, that the *new* operation could *not* have saved both the mother and child, and cannot, with that view, be admitted as a substitute for the Cæsarian operation \*.

We

\* Mr. Le Roy is of opinion that in any *Pelvis*, by the separation of the *Ossa Pubis*, we may make room for the largest head : he says, page 28, “ Si vous eussiez démontré  
 “ que sur le bassin le plus mal conformé vous pouviez faire  
 “ franchir la tête la plus volumineuse,” and he repeats nearly the same thing a little after, viz. page 29, “ au moyen de  
 “ quoi (deux pouces et demi d’écartement) même sur un-  
 “ bassin mal conformé, on fera franchir une tête volumi-  
 “ neuse.”

The same author recommends cutting the *Symphysis* in a *Pelvis* of three inches and a quarter aperture, because otherwise the child cannot pass alive ; page 75 he says, “ depuis  
 “ trois pouces un quart, jusqu’à deux pouces, la section est  
 “ parfaitement indiquée.”

He must therefore allow, that his Operation would have failed in any of the three cases which we have illustrated by figures. Indeed he expressly says so in another place, viz. page 73, “ Si le bassin n’a que vingt lignes d’ouverture de  
 “ devant en arrière au détroit supérieur, l’opération ne ferait  
 “ profitable qu’autant qu’on aurait plus de trois pouces  
 “ d’écartement. Il n’y aurait peut-être en ce cas d’autre res-  
 “ source,

We come next to consider the *second question*; which is, how far this new operation may be advisable, merely for saving the child, when the mother is in no great danger; viz. in those cases where the *Pelvis* is so narrow, that a full-grown or very large child cannot be born alive, and in which, therefore, the established practice of this country is, to open the head, and to deliver very cautiously with the crotchet.

Such cases, I know by long experience, do happen much more rarely than a great  
M 2 number

“ source, pour obtenir l'enfant vivant, que de pratiquer  
“ l'operation Césarienne.”

There is a striking contradiction in the two premised propositions, viz. first, that the new operation would make sufficient room for a large head in the most deformed *Pelvis*; and secondly, that probably nothing but the Cesarean Section would save a child, if the aperture of the *Pelvis* were only one inch and two thirds.

This apparent contradiction he clears up by subjoining, that such a dimension of the *Pelvis* (less than 20 lines) is imaginary; “ Heureusement cette dimension est imaginaire, et je ne connais point d'observations qui en ait  
“ jamais présenté la réalité.” Here the author has ventured an assertion and opinion which facts do most certainly contradict. We have seen above three instances of a *Pelvis* much narrower than 20 lines. Among other curiosities in the



number of practitioners may believe; and therefore I am convinced, that great mischief must be the consequence, if the generality of practitioners should think it warrantable to cut the *Symphysis*, whenever a woman has been long under the most distressing anguish of child-birth, without any considerable effect. Were this to be the case, there is great reason to fear, that the operation would be much oftener performed when altogether unnecessary, than when really wanted; a consideration which, if attended to, would make the firmest nerves shudder.

But

the anatomical part of my collectionn, are the following Specimens of ill-formed *Pelves* from female subjects.

1. A Pelves of one inch and three fourths aperturure, or twenty-one lines.
2. Ditto of one inch and three eighths, or sixteen lines and an half.
3. Ditto of one inch, two eighths and an half, or nearly sixteen lines
4. Ditto of eleven lines.
5. Ditto of five eighths of an inch, viz. just a little more than half an inch.

Four different specimens of a pelvis with a smaller aperture than 20 lines demonstrated twice yearly in a public course of lectures in London, put it beyond all doubt that the case is not imaginary, and that it is hazardous to found rules of practice on that supposition.

But still then, it will be said, may it not be useful in some few cases of that kind? In most, or all the cases where we can deliver the unhappy woman by this operation only, or by the crotchet, till more experience shall have given more knowledge, I shall give the preference to the crotchet, for the following reasons: 1st, Because it is so much more safe for the mother. When the crotchet is used with great caution, and the operation is executed slowly, giving intervals of ease, in imitation of the natural process, women recover almost as certainly, and as completely, as after a natural labour. 2dly, Because if all the confinement, all the sickness, pains, anxieties and terrors, which women so formed must suffer from pregnancy and labour, be fairly considered, their necessary and natural sufferings for men must be allowed by men to be sufficient. It would be ungenerous to lay it down as their duty to go much farther, to have the strongest joints of their body cut and torn asunder, to secure a *chance* only of a living child.

After having considered the two preceding important questions with no view but  
to



to support the interests of humanity, I must add after all, that the Section of the *Symphysis* may possibly be found to be a much better resource than the Cæsarian Section, in a very few rare cases ; not to save the child, as was said above, but to save the mother, which I think a much greater object. These cases, I say, will be very rare. I say so, because till I saw Dr Cooper's first case, I had never met with an instance of a woman who could not have been safely delivered by the crotchet ; and I have seen it perfectly successful in more than one instance, where very intelligent practitioners, thinking it impracticable, had declared for the Cæsarian operation. Success, in these cases, depends on working slowly, taking away one little bit after another, letting the woman rest from time to time, and taking great care that she be not wounded by the instrument, or by the sharp bones of the child.

But, supposing a case, where no success can be expected from the crotchet, either on account of the extraordinary narrowness of the *pelvis*, or partly from that circumstance

stance, and partly from a great projection of the *lumbar vertebra* over the cavity of the *pelvis*, hardly allowing any part of the child to come within the safe reach of the crotchet; in such a case, instead of the Cæsarian Section which is so dreadful, because so generally fatal to the mother, this new operation, may be found to give the mother a good chance for life and tolerable health, if it will make room sufficient for bringing the child within the sphere of the crotchet. This, tho' it could only be advisable in exceedingly few cases, might be a considerable improvement; because it would have the advantage over the Cæsarian operation, of saving the mother instead of the child.

Yet, even upon that supposition, were it to be admitted into practice, without consultation and formality, there is great reason to fear, that (like the crotchet itself perhaps) it would do more harm than good. It might render a shocking operation very frequent, to the great terror of mankind, tho' the cases that could really call for it, would be extreamly few. In midwifery, all instruments, and especially such as cut  
or



or tear either the mother or child, should be suspected by the public; to keep ignorant, and inexperienced, and adventurous practitioners upon their guard; and to inforce great caution, and consultation, in such delicate and dangerous situations of human nature.

T H E E N D.





FIG. II.

FIG. I.

FIG. III.

J. & B. Birnie fecit.









FIG. I.

FIG. III.

Trist. Bernie. Teet.

FIG. II.



